

FRENCH BROAD RIVER BASIN

POLLUTION SURVEY REPORT



STATE STREAM SANITATION COMMITTEE
NORTH CAROLINA STATE BOARD OF HEALTH
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POLLUTION SURVEY
REPORT NO. 5

THE
FRENCH BROAD RIVER BASIN

A study of existing pollution in the French Broad River Basin
together with recommended classifications of its waters.

STATE STREAM SANITATION COMMITTEE

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INTRODUCTION

The survey of the surface waters in the French Broad River Basin was undertaken and this report has been prepared to fulfill the requirements of Section 143-215 of Article 21 of the General Statutes of North Carolina. The area considered during these studies and covered by this report is the entire watershed of the French Broad River as shown on the accompanying map entitled "French Broad River Basin", page 13. The basin encompasses an area of 2,825 square miles in North Carolina and forms a major part of the Tennessee River system. The North Carolina portion of the basin is made up of the French Broad River and its tributaries, the Pigeon River and its tributaries, and the Nolichucky River and its tributaries.

The data on which this report is based have been developed through actual laboratory studies of existing stream conditions, engineering surveys of municipal and industrial plant water supplies and waste treatment facilities, from information obtained from existing files and from conferences with persons well acquainted with the area. Data with reference to stream flows, watershed areas and stream mileages were furnished by the North Carolina District Office, Geological Survey of the United States Department of Interior, under the terms of a cooperative program between that office and the State Stream Sanitation Committee. Other State agencies were, also, of considerable assistance in furnishing data with regard to land and stream usage.

The report presents information about present stream conditions, usage of the water resources in the basin, sources of pollution entering these water resources, pollution prevention measures now in effect, and proposed classifications for the waters of the basin.

Throughout the conduct of these studies and the preparation of this report a sincere effort has been made to present a fair picture of the complex water pollution problems within the basin. Likewise, every effort has been made toward developing reasonable conclusions and recommendations pertaining to the proposed classifications of the various waters comprising the water resources of the area. It is hoped, therefore, that the report will be useful to all who are concerned with the problem of safeguarding the water resources in the French Broad River Basin.

ACKNOWLEDGMENT

The State Stream Sanitation Committee of the North Carolina State Board of Health gratefully acknowledges the valuable cooperation and assistance of those agencies and individuals which have contributed to the French Broad River Basin studies and the preparation of this report.

Special recognition is given to the Division of Water Pollution Control, United States Public Health Service, for its cooperation in furnishing a mobile laboratory unit and a field crew consisting of Messrs. W. H. Davis, Jr., Sanitary Engineer; C. N. Shaddix, Chemist; C. R. Hirth, Chemist; M. D. Curry, Engineer Aide; P. F. Jones, Engineer Aide. Recognition is also given to the officials of industries and municipalities throughout the basin who furnished data relative to plant operation, waste discharges and treatment facilities employed. Recognition is also given the City of Asheville for its cooperation in furnishing space and utility services for laboratory units located in the City during the period of the survey.

Other Federal and State Agencies from which cooperation and assistance were obtained include the Geological Survey of the United States Department of Interior, the State Department of Conservation and Development, and the North Carolina Wildlife Resources Commission. Assistance was also rendered in numerous instances by county departments of agriculture, county health departments and other agencies and individuals interested in preserving and developing our water resources. This assistance is hereby acknowledged.

SUMMARY

This report has been prepared to fulfill the requirements of Section 143-215 of Article 21 of the General Statutes of North Carolina.

The area covered by this report is the entire watershed of the French Broad River Basin which encompasses approximately 2,825 square miles in North Carolina. The estimated 1950 population of the basin was 247,290, of which approximately 21 per cent live in the City of Asheville.

Water uses in the basin include domestic and industrial water supplies; electric power production; bathing and other forms of recreation; fish and wildlife propagation; agriculture, including livestock watering and irrigation; and waste disposal. The abundance and excellent chemical quality of the surface water, together with the development of electric power have attracted many industries to the area.

There are 18 public water supplies in the basin serving an estimated population of 149,645 which use approximately 20.0 million gallons of water per day.

There are 30 points of significant pollution within the basin. These wastes consist of domestic sewage, industrial wastes or combinations of both.

The total wastes from these points of significant pollution have an estimated domestic sewage population equivalent of 1,096,280. A small percentage of the total waste load receives primary treatment; however, the major percentage of these wastes receive no treatment. Waste treatment is the exception rather than the rule.

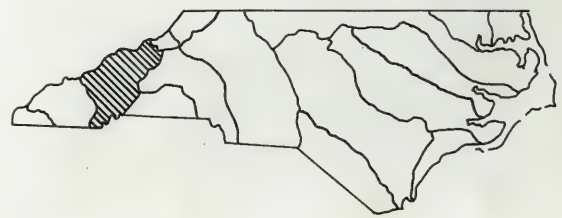
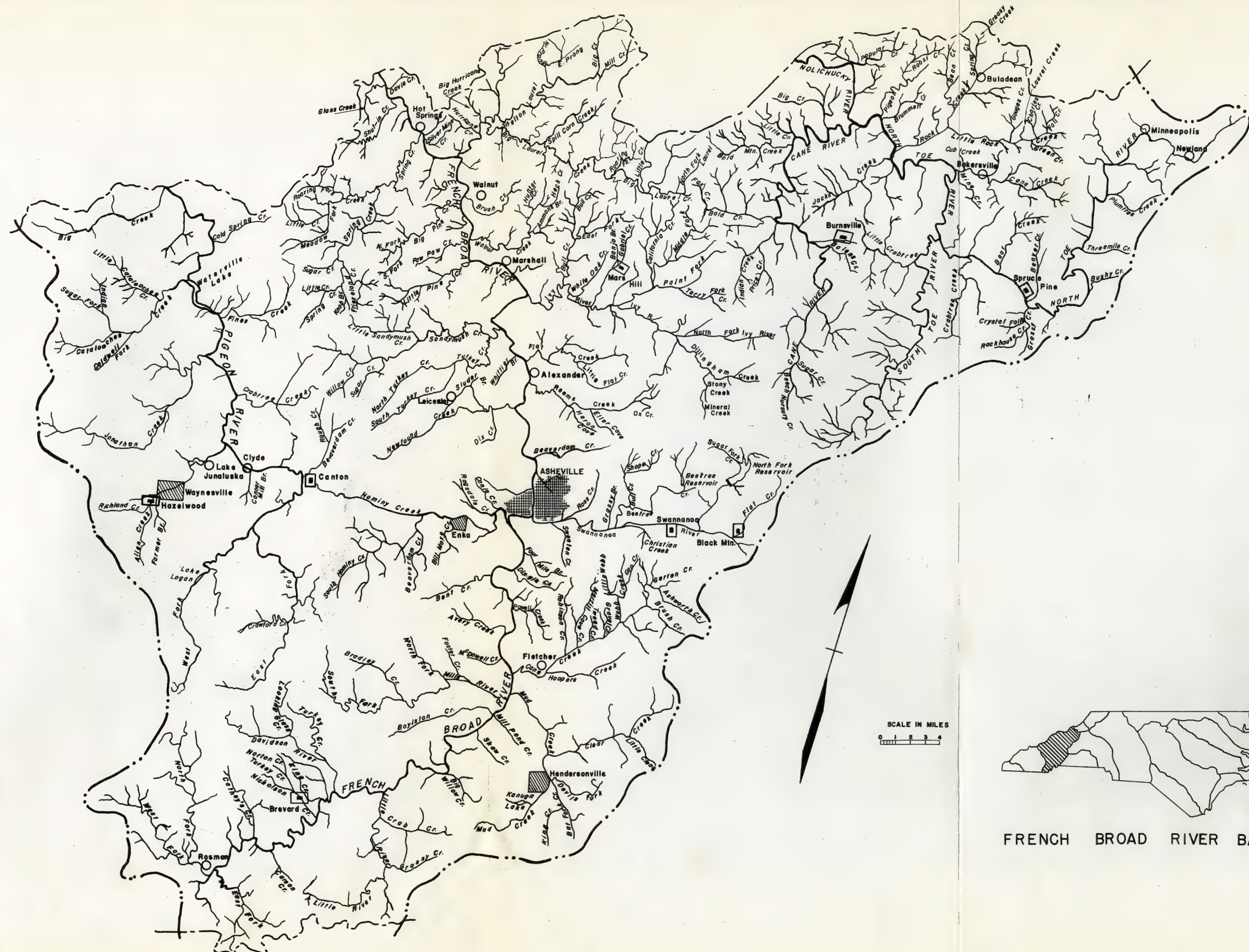
From the foregoing facts it can be seen that more treatment of the sewage and waste tributary to the streams in the basin is essential if the waters of the area are to be properly protected.

CONCLUSIONS

From a review of the data in this report, it is concluded that:

1. The French Broad River Basin is rich in natural resources including fertile lands, large forests and an abundance of water.
2. The waters of the basin are not presently used to their utmost. There is an adequate quantity of water to sustain additional industrial expansion, population growth, recreational development and other legitimate uses provided a comprehensive water pollution control program is carried out.
3. Many of the smaller streams of the area have not been damaged by sewage and industrial wastes. However, some streams receive excessive amounts of wastes and have been damaged. Among these streams are: Tucker Creek, Davidson River, French Broad River, Hominy Creek, Pigeon River, Nolichucky River and the North and South Toe Rivers.
4. Both population and industrial development are increasing rapidly in the basin. These trends are toward greater water use. To adequately protect the water resources of the basin for future use, steps must be taken to reduce existing pollution and to insure that future polluters provide effective waste treatment.
5. The scenic nature of the basin annually attracts thousands of tourists to the area. The water resources of the basin must be adequately protected, if this essential industry is to continue to expand.
6. Municipalities and industries should obtain competent personnel to study their individual waste disposal problems, and to seek proper waste treatment facilities.





FRENCH BROAD RIVER BASIN

GENERAL DESCRIPTION

The French Broad River Basin is located in the mountain region of the State, extending across the State from the South Carolina to the Tennessee State line. For purposes of this study the basin comprises that part of North Carolina bounded on the north by Tennessee, on the west by the Little Tennessee River Basin, on the south by South Carolina and the Broad River Basin, and on the east by the Broad and Watauga River Basins. The drainage area, as shown on accompanying maps, is 2,825 square miles and has an average width of about 50 miles and a length of approximately 65 miles. It includes all or a part of eight counties. The following tabulation gives the counties which lie within or partially within the watershed, together with the estimated area in square miles for each county:

<u>County</u>	<u>Total Area (Square Miles)</u>	<u>Estimated Area in Basin (Square Miles)</u>
Avery	247	120
Buncombe	642	604
Haywood	548	548
Henderson	358	250
Madison	456	456
Mitchell	220	220
Transylvania	379	316
Yancey	<u>311</u>	<u>311</u>
	2,961	2,825

The basin is actually made up of three separate rivers and for the purpose of this study, it has been broken up into three drainage areas: the French Broad River drainage area, the Pigeon River drainage area, and the Nolichucky drainage area.

Topography

The French Broad River Basin is located entirely in the mountain region of the State and includes the New Found Mountains, Pisgah Ridge, Black, Bald, and Iron Mountains and other lesser ranges. Highest elevation in the basin is attained at Mount Mitchell, elevation 6,684 feet, and is the highest peak east of the Rocky Mountains. The south and east boundaries of the basin are formed by the Blue Ridge Mountains, the west by the Balsam Mountains and Tennessee Ridge, and on the North Carolina - Tennessee State line, are located the Great Smoky Mountains, through which the rivers enter Tennessee.

Although the entire area is mountainous, the topography is characterized by lower mountains or hills and valley lands lying between higher ranges. The average elevation of the entire area is between 2,500 and 3,000 feet.

Stream Flow

There are twenty-seven active stream gaging stations in the French Broad River Basin. Flow data for this report were compiled from these gage records and supplemented where needed by staff gages and reference points. These stations are operated and maintained by the U. S. Geological Survey in cooperation with the State Department of Conservation and Development and the Tennessee Valley Authority. For the location and nature of these gaging points see table entitled "Description and Location of Sampling and Gaging Stations" accompanying the section relative to each drainage area.

Cover and Climate

Approximately sixty-eight per cent of the area of the French Broad River Basin consists of forest land, of which about thirty-eight per cent is farm woodland, about twenty-two per cent National Forest, and about eight per cent other Public Forest Reserve. A total of about four hundred and eighty-seven square miles of the basin is covered by farmland pasture.

Mean annual temperature varies between the extremes of forty-five and fifty-eight degrees. The northwestern and southwestern portions of the basin have low annual means of fifty-one degrees, while the southeastern portion has an annual mean of fifty-eight degrees. The lowest annual mean, forty-five degrees, is in the Mount Mitchell area. The annual mean for the whole basin is fifty-four degrees.

The mean annual rainfall in the basin varies between the extremes of forty and seventy-five inches. Rainfall in the Asheville area is as low as any other section of the State: forty inches. Rainfall approaches the maximum for the State, seventy-five inches, in the lower portion of the basin. Annual rainfall increases generally from forty-five inches in the northwest portion, to sixty-five to seventy inches along the southeast boundary.

ECONOMIC DEVELOPMENT

Population

The estimated population of the French Broad River Basin based on the 1950 census of population is 247, 290. Of this population, approximately 21 per cent live in the City of Asheville. The basin encompasses one city and 23 towns. Of the total population in the basin, 37 per cent reside in cities and towns and 63 per cent reside in rural areas. During the ten-year period, 1940-1950, the population of the basin increased by approximately 8.9 per cent while the population of the State increased 13.7 per cent. The following table shows the distribution of the estimated population by counties:

Estimated Population of French Broad River Basin

<u>County</u>	<u>Population</u> <u>1940 Census</u>	<u>Population</u> <u>1950 Census</u>	<u>Estimated</u> <u>Loss or Gain</u>	<u>Estimated Pop.</u> <u>In Basin</u>	<u>Est. % of</u> <u>Total Pop.</u> <u>In Basin</u>
Avery	13,561	13,325	1.7 (-)	6,493	2.6
Buncombe	108,755	124,403	14.4 (+)	116,939	47.3
Haywood	34,804	37,631	8.1 (+)	37,631	15.2
Henderson	26,049	30,921	18.7 (+)	21,645	8.8
Madison	22,522	20,522	8.9 (-)	20,522	8.3
Mitchell	15,980	15,143	5.5 (-)	15,143	6.1
Transylvania	12,241	15,194	22.5 (+)	12,611	5.1
Yancey	17,202	16,306	5.2 (-)	16,306	6.6
Total	251,114	273,466	8.9 (+)	247,290	100.0

Industry

The industrial activities within the basin are many and varied; involving the manufacture of textiles, pulp and paper, leather and leather goods, cellophane, wood products, furniture, rubber, electronic equipment, and metal products. Other types of industries have, also, taken advantage of the ample supply of labor, power, and good transportation, along with favorable climate and raw materials throughout the area.

In 1947, the latest year of record, there were 262 manufacturing establishments in the eight counties within the basin. These establishments employed 21,885 persons. The value added to the products through manufacture was reported to be \$102,997,000.

Agriculture

The soils of the basin are well adapted to the growing of a wide variety of agricultural products. The more important crops grown in the area are tobacco, corn, vegetable or truck crops, small grains, and hay. The table which follows lists the value of agricultural products produced in each county within the basin.

Name	No. of Farms 1950	Acres Harvested 1949	Value of Products in 1949			
			All Crops	Livestock	Dairy Products	Poultry Products
Avery	1,786	17,000	\$ 616,000	\$ 346,000	\$ 85,000	\$ 67,000
Buncombe	4,266	34,000	1,249,000	680,000	1,419,000	505,000
Haywood	2,784	23,000	990,000	849,000	381,000	171,000
Henderson	2,394	29,000	996,000	288,000	724,000	187,000
Madison	3,458	30,000	2,215,000	632,000	161,000	115,000
Mitchell	1,931	15,000	325,000	216,000	125,000	34,000
Transylvania	1,092	11,000	181,000	134,000	65,000	68,000
Yancey	2,740	20,000	772,000	312,000	172,000	117,000
Totals	20,451	179,000	\$7,344,000	\$3,457,000	\$3,132,000	\$1,264,000

Forest Resources

Forest land constitutes about sixty-eight per cent of the French Broad River Basin. The State and Federal Governments own approximately thirty per cent of the forest land. According to Bulletin No. 53 of the North Carolina Department of Conservation and Development entitled "Forest Resources Appraisal of North Carolina", the forest land in the counties within the basin in 1945, and the timber sawed in these counties in 1942 was:

County	Total Forest Land (Acres)	Forest Land Not Publicly Owned	Public Forest Land	Lumber Sawed M. ft. b.m. 1942
Avery	103,226	79,859	23,367	6,512
Buncombe	273,284	239,691	32,593	9,683
Haywood	250,300	127,120	123,180	12,310
Henderson	145,466	126,831	18,635	2,287
Madison	174,800	128,611	46,189	4,264
Mitchell	91,400	75,315	15,685	4,335
Transylvania	206,904	125,278	81,626	12,692
Yancey	140,000	106,973	33,027	10,543
Total	1,385,380	1,013,077	372,303	62,626

Mineral Resources *

The mineral resources of the principal drainage area of the French Broad River Basin are, for the most part, classed as non-metallic. The more important of these are feldspar, mica, kaolin, clay, sand and gravel, granite, asbestos, vermiculite, olivine, and beryllium. The following table shows the principal minerals mined by counties in 1953.

County	Value	Minerals
Avery	**	kaolin, mica, feldspar
Buncombe	**	sand & gravel, feldspar, mica
Haywood	**	sand & gravel, granite, mica
Henderson	\$ 284,856	limestone, clay, granite
Madison	5,800	feldspar
Mitchell	4,400,385	feldspar, mica, kaolin, quartz, beryllium
Transylvania	**	sand, asbestos
Yancey	946,419	mica, feldspar, asbestos, olivine

* Information furnished by the Division of Mineral Resources, State Department of Conservation and Development.
 ** Information Not Available

Fish and Wildlife

Fishing is extensive throughout the basin. It is reported that trout, bass, pike, bream, catfish, crappie, and white bass are found in the waters of the area. Some of the best trout fishing in the State is to be found in the clean mountain streams. The North Carolina Wildlife Resources Commission annually stocks many of the streams of the area with trout as well as working with the U. S. Forestry Service in the management of additional trout streams in the Cooperative Wildlife Management Areas.

Game of a wide variety are present and hunting is prevalent throughout the basin. During the hunting season, hunters have their choice of several Cooperative Wildlife Management Areas in which to hunt. Deer, bear, grouse, squirrel, coon, boar, turkey, rabbits, quail, and pheasants can be found in the area. Organized hunts on Cooperative Management Areas are held under the joint supervision of State and Federal authorities.

Recreation

The recreational assets of the basin have been rather highly developed. The area is internationally famous as a center of tourist activity. The scenic nature of the area, the numerous camps, as well as the public recreational areas maintained by the State and Federal Government attract many visitors to the area. Public recreation areas are:

- Bent Creek - Picnicking and camping
- Powhatan - Picnicking, camping, hiking
- North Mills River - Picnicking, camping, individual camp and trailer lots
- Big Ivy - Picnicking, camping
- Pink Beds - Picnicking
- Davidson River - Picnicking, swimming
- Roan Mountain - Picnicking
- Silver Mine - Picnicking, camping, swimming
- Carolina Hemlock - Swimming, picnicking, camping, trailer space, hiking
- Mt. Mitchell State Park - Picnic area, camp grounds, recreation lodge

The largest concentration of summer camps in the State is to be found in the French Broad River Basin. Approximately fifty camps for boys and girls are located in the basin, offering a variety of recreational activities. The existence and maintenance of water of suitable quality for recreation is of unusual significance in these areas.

THE SURVEY

General

The French Broad River Basin is naturally divided into three distinct drainage areas; therefore, the report is divided accordingly. These drainage areas and the sections of the report are designated as follows:

- Section I - French Broad River Drainage Area
- Section II - Pigeon River Drainage Area
- Section III - Nolichucky River Drainage Area

During the survey, detail studies were made to determine water and land uses throughout the entire basin. This information is given in appropriate tables accompanying the report covering each drainage area.

To determine the significant contributors of pollution into the waters of the basin, an investigation of all sources, both municipal and industrial, was conducted. This procedure involved the determination of volumes and characteristics of all sewage and industrial wastes, either treated or untreated, that were being discharged into the waters of the basin. Information concerning points of significant pollution is given in appropriate tables accompanying the report covering each drainage area.

In addition, the survey included conferences with County Health Officials, Wildlife Protectors, Soil Conservation Officials, Farm Agents, and others concerning the usage of the waters within the basin.

Sampling Stations and Procedures

The survey included a program of stream sampling from the upper stretches of the stream to the North Carolina - Tennessee State line and extending throughout the major tributaries in the basin. Particular emphasis was placed on those streams receiving appreciable amounts of sewage and/or industrial waste; however, sampling stations were established on streams that were known to be free of appreciable sewage and industrial waste in order to establish basic information relative to normal water quality.

Sampling stations were located so as to have at least one a short distance above the source of pollution, and where feasible, several below the source of pollution. The locations of the sampling stations are shown on maps accompanying each section of this report.

Samples were collected from the streams after the waste discharged had reasonable opportunity for dilution and mixture with the receiving waters, and in such a manner as would give a representative sample. Sampling operations were conducted in accordance with the procedures and methods outlined in "Standard Methods for Examination of Water and Sewage," Ninth Edition, published jointly by the American Public Health Association and the American Water Works Association. Special equipment was used to collect stream samples in accordance with standard procedures. Collecting devices prevented the aeration of dissolved oxygen samples. Apparatus and chemical reagents in appropriate field kits were used by survey crews for the determination of dissolved oxygen, water temperature, and other physical features of the stream at the time of sampling. The results of the samples collected from these sampling stations were used in the determination of present water quality in the area.

Hydrological Measurements

Since data regarding stream flow at sampling times are essential, a cooperative program was worked out with the Raleigh office of the United States Geological Survey, an agency, one of whose major functions is collecting stream flow data. Their regularly operated stream flow measurement stations were utilized, and a network of secondary flow measurement sites was established. Within the basin there were twenty-seven recording gage stations and sixteen secondary measurement sites where stage observations were made by manual devices at the time of sampling. From these data the stream flows were calculated.

Laboratory Tests and Their Significance

When sampling a stream certain tests must be made, of necessity, in the field at the time of sampling such as the temperature, the dissolved oxygen and certain observations connected with the senses of sight and smell. Other tests were run in the mobile laboratories, such as pH, alkalinity, hardness, chlorides, B.O.D., MPN of coliform bacteria, suspended solids, dissolved solids, total solids, turbidity, and color. The analytical results are shown in tables accompanying each section of the report. Dissolved oxygen, B.O.D. and MPN of coliform bacteria data at various stations are shown on graphs.

As a background for the presentation and discussion of laboratory data, certain rules and regulations have been adopted by the State Stream Sanitation Committee for use in classifying and assigning standards of quality and purity to designated waters in North Carolina. For each class of water designated there are accompanying standards of water quality and purity which shall be applied thereto. Based on best usage, these classes for fresh surface waters are A-I, A-II, B, C, D, and E. Class A-I is intended to provide water which is suitable for drinking purposes with only chlorination as a means of purification. Class A-II is applicable to streams used as a source of public water supply, the quality of which must be such that they meet the Public Health Service Drinking Water Standards, and will be safe for public consumption after treatment consisting of coagulation, sedimentation, filtration, and post-chlorination. Class B is intended to provide a water of such quality that it will be suitable and safe for bathing and other recreational purposes. Class C is intended to provide a water that is suitable for the propagation of fish and wildlife. Class D is intended for waters which will be used principally in agriculture and for industrial water supply. The quality of this water will not injure livestock, and will be satisfactory for irrigation. It will also be suitable for industrial cooling water without additional treatment and for industrial process water with such special treatment as may be necessary to provide a water of the quality that is required for the specific use to be made of it. Class E is a designation given to those waters, the principal use of which will be for navigation. These waters may also be used as a means of sewage and waste disposal, but not to the extent that an offensive condition will exist.

Under certain conditions, it is necessary to make special tests for specific substances such as toxic materials; however, in the discussion which follows the requirements for stream waters for various uses are considered in terms of the usual laboratory tests that are made. As far as practical and applicable, all chemical and bacteriological examinations were made in accordance with "Standard Methods For The Examination of Water and Sewage," Ninth Edition. The routine determinations, together with a brief discussion of the significance of each are as follows:

Temperature - The temperature of stream waters is useful in indicating the solubility of gases in it and hence the saturation level of dissolved oxygen; the effect on biological activities; and the effect of viscosity on sedimentation. The level of dissolved oxygen varies inversely with the stream temperature, being lower at higher temperatures and vice versa. Temperature has a marked influence on the rates of natural purification due to biological activity, which is greater at higher temperatures up to about 140° F. and diminishes at lower temperatures. As temperature rises viscosity decreases with a resulting increase in sedimentation, provided other factors do not interfere.

Turbidity - Turbidity is measured in parts per million (ppm) of a standard suspension of diatomaceous or "Fuller's Earth." It is an index of the density of the suspended matter in a sample.

Color - The color of water is usually considered due only to substances in solution. The color of natural water is in general due to microscopic plant growths and certain salvable organic materials. Usually very intense and varied colors are produced by certain industrial waste. The "color" or "true color" of water shall be considered the color that is due only to substances in solution; that is, it is the color of the water after suspended matter has been removed. The unit of color in parts per million is that produced by one milligram of platinum in one liter of distilled water.

pH Value - The hydrogen ion concentration of water expressed as pH is a measure of its acidity or alkalinity. Water having a pH value of 7.0 is considered neutral, that is, neither acid nor alkaline. Higher values indicate the presence of alkaline earth salts and lower values the presence of acids or acid salts. In North Carolina, the pH of most of the streams unaffected by sewage and industrial wastes will vary from 6.0 to 7.5. Swamp waters and certain other natural waters may have a lower range. With respect to normal fish life in streams of the State, the pH value should be within the limits of 4.3 to 8.5.

Alkalinity - The alkalinity of natural water represents its content of carbonates, bicarbonates, hydroxides, and sometimes borates, silicates, and phosphates. It is measured by titrating with a standard acid solution to certain standard datum points or hydrogen - ion concentrations. The results are expressed in parts per million of calcium carbonate. Within normal limits, the alkalinity and hydrogen - ion concentration have little sanitary significance, but they are of value in handling industrial wastes and in controlling the various waste treatment processes.

Dissolved Oxygen - Dissolved oxygen represents the amount of oxygen dissolved in the water. This test is one of the most valuable analytical measures of the condition of a given water. When water contains as much oxygen as it can dissolve, it is saturated; when it contains less it is undersaturated; and under certain unusual conditions, it may become super-saturated. In relatively clean streams, the dissolved oxygen content tends to remain at or near the saturation level. Dissolved oxygen is essential to the natural purification of stream water, and the maintenance of fish and other aquatic life. In natural streams, the dissolved oxygen is used to support the biochemical oxidation of organic waste, but tends to be replaced by absorption from the atmosphere and the photosynthetic action

of certain green plants. A deficiency in the dissolved oxygen content of a polluted stream below the saturation level indicates the presence of polluting substances, which are using up the oxygen from the stream water. The degree of this deficiency is a measure of the deoxygenating effect of the particular wastes, and hence an index of the degree of pollution present in the stream. When a stream receives a waste at a single point, and they are rapidly mixed with the water, the dissolved oxygen content tends to follow a typical sag curve on the basis of time, temperature, oxygen demand, and the rate of reaeration in the stream. This rate of reaeration is influenced somewhat by stream temperature, but largely by the turbulence of flow which varies widely in different streams or sections of the same stream.

In North Carolina, studies indicate that an oxygen minimum of 5.0 ppm is necessary to support trout adequately and 4.0 ppm for other forms of game fish. Fish may survive at oxygen levels of two or three parts per million; but it is considered that at least 4.0 ppm is necessary to permit the proper breeding and self-maintenance of the more desirable forms of fish.

Five-day Biochemical Oxygen Demand (B.O.D.) - The B.O.D. test is the most important made in sanitary analyses to determine the polluting power, or strength, of sewage or polluted water. It serves as a measure of the amount of clean diluting water or degree of treatment required for the successful disposal of the polluting substance. The standard test involves the incubation of sealed samples of a stream water for 5 days at a temperature of 20°C., and the measurement of the loss of dissolved oxygen by the sample during the period of incubation. This loss represents the 5-day 20°C. B.O.D. of the sample. The B.O.D. is a measure of the amount of dissolved oxygen that may be expected to be absorbed from a stream in 5 days at 20°C. in order to satisfy the biological and chemical oxidation of the organic pollutants carried in the stream at the time of sampling. Since polluted water will continue to absorb oxygen after months of incubation, it is not practical to determine the ultimate oxygen demand of a sample.

In most cases the condition of oxidation proceeds in two stages. In the first stage usually lasting for seven to ten days or more, depending upon the particular waste, the carbonaceous matter is first oxidized, and then nitrification sets in. Organic matters found in sewage have been oxidized experimentally in this manner according to a logarithmic time function curve, which varies in its rate with the temperature of the water, the rate being increased at higher temperatures. Therefore, it is possible to calculate the approximate amount of oxygen demand satisfied at any time and at any temperature, having determined it at a standard time and temperature. The standard time and temperature usually employed in this country are 5 days at 20°C.

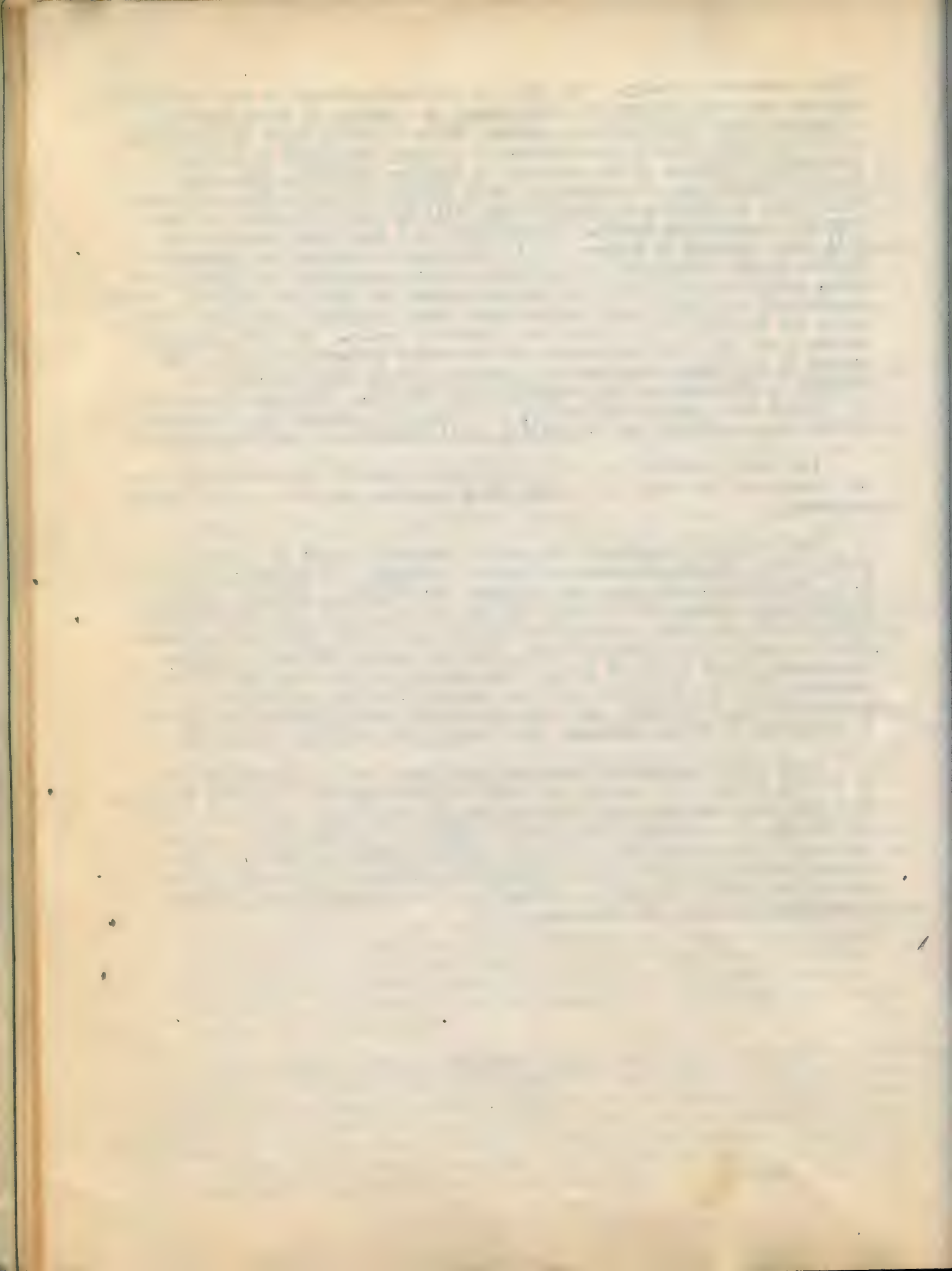
The Most Probable Number (MPN) of Coliform Bacteria - The coliform content is used as a general index of the sanitary condition of a stream. This determination shows the approximate density of a group of bacteria which are always present in large numbers in sewage, and are relatively few in numbers in other stream pollutants. Coliform bacteria are normal inhabitants of the intestines of all mammals, and are discharged in very large numbers in human feces, which constitute the principal source of

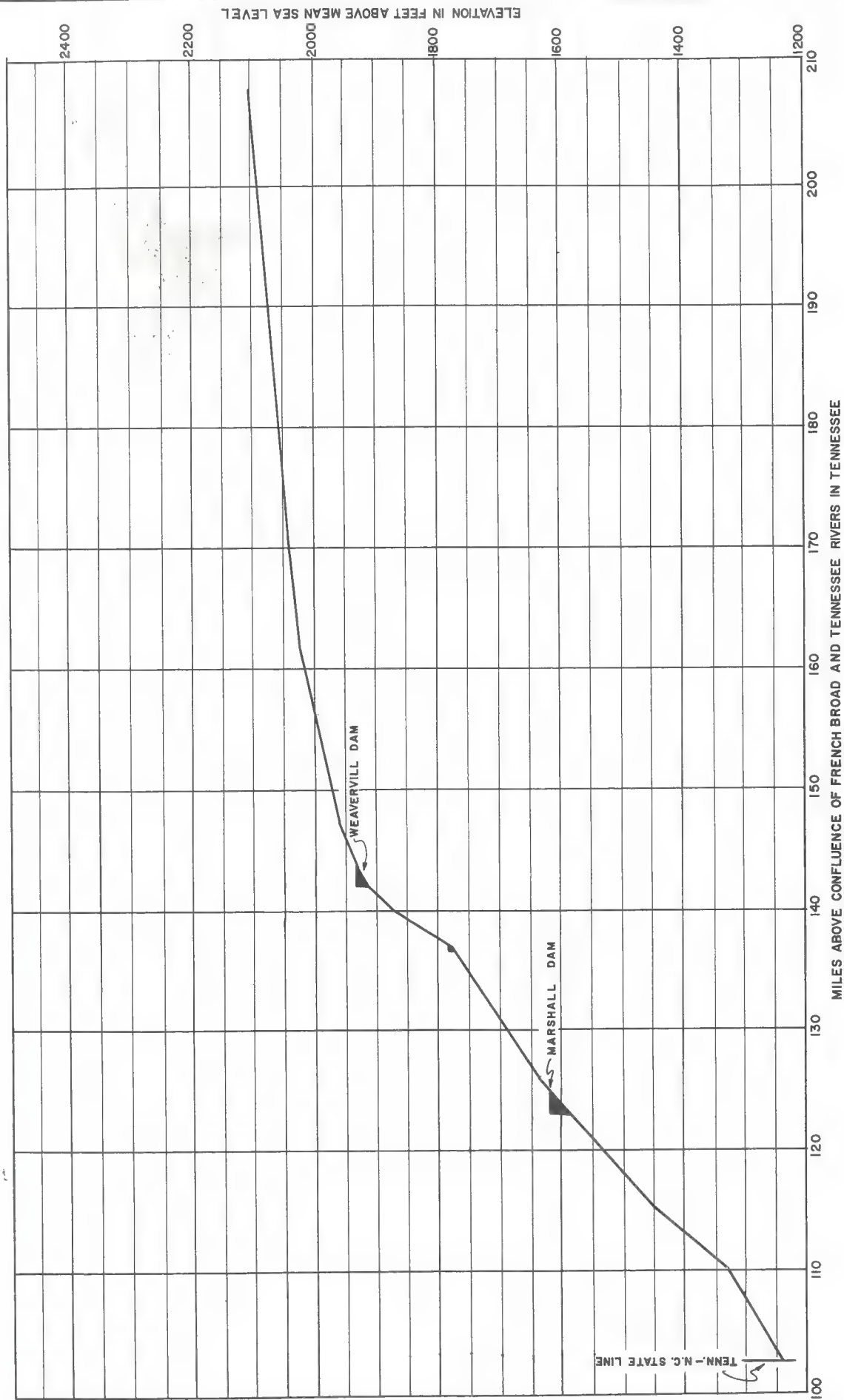
these bacteria in sewage. The test for coliform bacteria is made by adding various measured portions of water sample to a series of tubes containing a lactose broth liquid culture medium. After 24 to 48 hours of incubation at 37°C., tubes showing the presence of gas are considered as giving presumptive evidence of the presence of coliform bacteria, which are lactose fermentors. The amount of water sample tested in each series must be reduced by dilution in fixed ratios until the smallest amount gives a negative presumptive result. Since there are a few other bacteria that will cause lactose to ferment, it is necessary to confirm the presumptive results by the respective inoculation of tubes containing brilliant green bile, which is a more selective culture medium for coliform bacteria. After incubation, the presence of gas in these tubes indicates a positive result, while the absence of gas indicates a negative result. The most probable number (MPN) of coliform bacteria is determined mathematically from the number of confirmed tubes giving a positive result with the different volumes or dilutions of the original water samples. Although this method is subject to a considerable error, it is the most logical and relatively precise one available for determining small densities of coliform bacteria.

The most important use of the coliform content is evaluating the water as a source of raw water for public water supplies, and its use for bathing purposes.

The recognized standards for surface waters to serve as a source of public water supply with various types of treatment are specified by the U. S. Public Health Service and designate the following limiting monthly arithmetical average MPN of coliforms per 100 ml.: (1) For chlorination only without any other treatment-should not exceed 50; (2) For treatment equal to coagulation, sedimentation, filtration, and post-chlorination-should not exceed 5,000 nor exceed this density in more than 20% of the samples; (3) For treatment equal to pre-chlorination, coagulation, sedimentation, filtration, and post-chlorination-should not exceed 20,000 in more than 5% of the samples; (4) Over 20,000 unfit for treatment.

There are no generally recognized standards for the classification of bathing waters with respect to their coliform content. Coliform standards have been proposed that vary from not over 50 to not over 3,000 coliforms per 100 ml. In reviewing the coliform results of various surface water samples, it is evident that the major emphasis should be placed on the sanitary survey and the proper sanitary supervision of the waters by the controlling health authorities, rather than the bacteriological content in designating areas for swimming.





CONDENSED PROFILE
OF
FRENCH BROAD RIVER
IN
NORTH CAROLINA

GENERAL SURVEY FINDINGS

SECTION I

FRENCH BROAD RIVER DRAINAGE AREA

Land Characteristics and Uses

The French Broad River rises on the western slope of the Blue Ridge Mountains in Transylvania County. It flows northwesterly through the central part of the basin to enter Tennessee where it joins the Holston River near Knoxville to form the Tennessee River. The topography of the area is characterized by mountain ranges, isolated peaks, and large rolling upland valleys. One of the most noticeable features of the topography is the broad rolling inter mountain plateau in the vicinity of Hendersonville and Fletcher. This plateau has an average elevation of from 2,100 to 2,300 feet, and in many respects resembles the Piedmont area of the State.

The stream has a rather uniform fall from its source to Asheville, having an average fall of $2 \frac{1}{3}$ feet per mile. Below Asheville the slope of the river becomes steeper, the average fall being about 16 feet per mile to the Tennessee State line.

A large portion of the watershed area is covered with forest; National Forests cover approximately 17% of the area. There ^{many} are small farms and pastures throughout the area, particularly in the bottom lands. Livestock and dairying are important agricultural pursuits.

Existing Stream Uses

Streams serve as the major source of water supply for both municipalities and industries. Surface water sources supply the water used in Asheville, Black Mountain, Brevard, Hendersonville, Hot Springs, Marshall, Mars Hill, Montreat, Ridgecrest, Weaverville, and the Woodfin Sanitary District. The Asheville water system supplies a major part of Buncombe County. These sources of water supply are of such quality as to require only chlorination as a means of purification.

Many of the smaller industries in the area are supplied with process water by municipal water systems. However, industries requiring large quantities of water have their own source of supply and their own water treatment works. Among the larger industrial water users are Ecusta Paper Company, Cranston Print Works, American Enka Corp., Beacon Mfg. Company and Sayles Biltmore Bleachery.

The area is known internationally as a center of mountain resort activities. Recreational facilities provide for swimming, fishing, camping, and picnicking. There are many privately owned camps in the area providing recreational facilities for scores of boys and girls. Picnic areas, principally in Pisgah National Forest, are used constantly during the tourist season. The scenic nature of the area lures many of the numerous trails.

Fishing is prevalent in the smaller unpolluted streams as well as the headwaters of the French Broad River. The N. C. Wildlife Resources Commission annually stocks many of the streams in the area with trout. Bass, bream, and crappie are common to the waters of the section.

Agricultural water use includes both livestock watering and irrigation. The practice of irrigating both pasture land and field crops has increased greatly during the past three years. Information supplied by Farm Agents and Soil Conservation Agents indicates that this practice will continue to increase.

There are four electric power projects on the watershed. Carolina Power & Light Company operates two power plants on the French Broad River. One of the plants is a hydroelectric plant, whereas the other is operated by steam. The Rural Electrification Authority operates a hydroelectric plant on the French Broad River. The Cascade Power Company operates a hydroelectric plant on Little River. The total power output of the four plants is estimated to be 19,200 K. W.

The French Broad River and some of its tributaries are used for sewage and waste disposal. Wastes are discharged into the drainage system at Rosman, Brevard, Pisgah Forest, Cranston Print Works, Biltmore Dairy Farm, Enka, Asheville, Mars Hill, Marshall, and Hot Springs. The sources of pollution are described as follows:

Town of Rosman has no sewerage system; however, raw sewage from the Rosman School and a few houses is discharged into French Broad River. This waste should receive some treatment.

Toxaway Tanning Company discharges untreated industrial waste having an estimated population equivalent of 1,640, into the French Broad River. These wastes, being highly colored, discolor the stream, as well as add oxygen consuming materials.

Town of Brevard discharges the effluent from its treatment works into King Creek. This plant provides facilities for primary settling, sludge digestion, sludge drying, and chlorination (to prevent obnoxious odors during summer). The effluent has an estimated population equivalent of 2,925. The plant is adequate for present needs.

Transylvania Tanning Company discharges untreated industrial waste, having an estimated population equivalent of 3,328 into Tucker Creek. This waste is highly colored and oxygen consuming and result in nuisance conditions in Tucker Creek.

Ecusta Paper Corp. discharges untreated industrial waste into Davidson River. The plant provides primary treatment and sludge digestion for its domestic sewage. The population equivalent of the wastes from this plant, based on analytical data obtained at sampling station No. 13, is 249,000. These wastes are high in oxygen demand and reduce the dissolved oxygen in the French Broad River for a considerable distance downstream. Dissolved oxygen determinations run during the period July 22 - September 20, 1954, show that the dissolved oxygen in French Broad River was rapidly depleted below the confluence of Davidson River. The above mentioned determinations show that the dissolved oxygen becomes zero and remains zero for a distance of approximately 20 miles. Conditions of zero dissolved oxygen seriously interfere with aquatic life.

Chipman LaCrosse Hosiery Mills Company discharges untreated industrial waste and domestic sewage into a small unnamed stream, hereafter referred to as Dye Branch. This plant discharges approximately 80,000 gallons of highly colored waste daily that has a population equivalent of 1,570. This waste eventually enters Mud Creek.

Hendersonville discharges raw sewage and industrial waste through 13 outfall lines into Mud Creek. Raw sewage, being high in oxygen demand and in coliform bacteria, renders the stream unfit as a source of water for irrigating vegetable crops and devoids the stream of dissolved oxygen. The importance of truck farming in Henderson County requires that the streams of the county be suitable for agricultural uses.

Cranston Printworks discharges untreated industrial waste, having a population equivalent of 8,400, into French Broad River. This waste, high in oxygen demand and color, adds to the pollution in an already grossly polluted stream.

Biltmore Dairy Farms discharges the untreated waste from its milk processing plant into French Broad River. This waste, having an estimated population equivalent of 9,000, further deteriorates the quality of the water in French Broad River.

American Enka Corp. discharges sewage and industrial waste into Hominy Creek. A part of the industrial waste receives some treatment by lagooning, whereas the remainder of the plant's waste goes to the stream untreated. The pH of the stream water, after receiving the plant wastes, fluctuates over a wide range. This waste renders the stream almost useless as a source of water for irrigation and seriously affects the stream biota.

City of Asheville and Buncombe County Sanitary Districts

There are nine public sewer systems in Asheville and the Buncombe County Sanitary Districts that are interconnected and dependent one upon another in conducting the raw sewage to the French Broad River and/or its tributaries. Cognizance of this interrelationship is essential in considering the sanitary sewer facilities in the area.

City of Asheville

Asheville, the largest city in western North Carolina, located in the center of the internationally famous mountain area, has an estimated resident population of 53,970 persons served by its sewage collecting system. Due to the importance of Asheville as a center of tourist activity, this sewer system serves a substantially increased population during the tourist season, resulting in a substantial increase in sewage flow. This sewage, together with the industrial waste from some of the industries in the city, is discharged, without treatment, into the French Broad River or Hominy Creek.

The waste from part of West Asheville is discharged into Hominy Creek through four outfalls. The waste from the remainder of West Asheville is discharged into the French Broad River through twelve outfalls. All sixteen of these outfalls discharge untreated waste into the streams.

Sewers serving the Keilworth and Biltmore sections of the city are discharged into the Swannanoa Sanitary District sewer.

The waste from the main section of the city is discharged untreated into the French Broad River through twelve outfalls.

The sewers serving the Beaver Lake section of the city discharges into two Woodfin Sanitary District Sewers.

The total waste load from the Asheville sewer system is estimated to have a population equivalent of 65,000. The major portion of this waste enters the river upstream from the city and contributes greatly to the pollution in an already grossly polluted stream.

All of the industrial waste discharged within the municipal limits of Asheville is not discharged into a public sewer system. Some of the industries, located along the French Broad River, discharge untreated industrial waste, through private sewer systems into the river. The industries contributing a significant amount of pollution by the above method are:

Hans Resse Tannery discharges untreated industrial waste into the French Broad River. This waste, having an estimated population equivalent of 28,800, is high in color as well as high in oxygen demand, and adds greatly to the pollution in a grossly polluted stream.

Asheville By-Products Company discharges untreated waste into the French Broad River. This waste is estimated to be equivalent in strength to raw sewage from a population of 920 persons.

Buncombe County Sanitary Districts

During the period 1923-1929, twelve sanitary districts were formed in Buncombe County to provide water or sewerage or both of these services in areas that were at that time outside the municipal boundaries of Asheville. Four of these districts installed both water lines and sewer lines, three installed water lines only, and the remaining five provided sewer lines. One of these sanitary districts has since been incorporated into the City of Asheville. Of the districts having water distribution system, only one has its own source of supply; the other districts being supplied by the Asheville water system.

As a result of legislation enacted by the North Carolina legislature, the Board of County Commissioners of Buncombe County is responsible for the maintenance of the sewers and water lines in all the sanitary districts except Woodfin.

The district sewer systems are briefly described as follows:

The Beaverdam Water & Sewer District discharges raw sewage from an estimated resident population of 1,000 persons into the Woodfin Sanitary District sewer.

The Busbee Sanitary Sewer District - Sewage from a population of about 200 persons is discharged, after receiving primary treatment followed by sand filtration, into Dingle Creek. Pollution in Dingle Creek is significant only insofar as it affects downstream uses.

Sewage from the remainder of the district, about 250 persons, is discharged without treatment into the Biltmore Forest Municipal Sewer System.

The Caney Valley Sanitary Sewer District discharges untreated sewage, from an estimated resident population of 800 persons, into the Asheville sewer system, which, in turn, is discharged into Hominy Creek.

The Crescent Hill Sanitary Sewer District discharges sewage, after receiving primary treatment, into Piney Creek. The sewer system serves an estimated population of 250 persons.

The Fairview Sanitary Sewer District discharges untreated sewage from an estimated population of 3,000 persons into the Swannanoa Sanitary District Sewer.

The Skyland Sanitary Sewer District discharges untreated sewage from an estimated population of 2,000 persons and waste from the International Resistance Company into French Broad River.

The Swannanoa Water and Sewer District discharges untreated sewage and industrial waste into the French Broad River. The Swannanoa outfall sewer carries sewage from the sanitary district, Ridgecrest (a private system), the municipal sewer system of Black Mountain, the Montreat Sewer System, (a private system), the Blue Ridge Y.M.C.A. Camp, the State Hospital, Black Mountain College, the Government Hospital at Swannanoa, the Government Hospital at Oteen, the Fairview Sanitary Sewer District Sewer System, and the sewer systems serving the Kenilworth and East Biltmore sections of the City of Asheville. The outfall sewer also carries untreated industrial waste from Black Mountain, Beacon Manufacturing Company, and the Sayles Biltmore Bleachery. The domestic sewage discharged by this outfall sewer is estimated to have a population equivalent of 20,000 and the industrial waste an estimated population equivalent of 15,000.

The Woodfin Sanitary Water and Sewer District discharges untreated sewage through twelve outfall lines into the French Broad River. The Woodfin System serves an estimated connected population of 6,000 persons, as well as discharging the waste collected by the Beaverdam water and sewer district system and a part of Asheville. The estimated population equivalent of effluent from this system is 9,000.

Biltmore Forest discharges untreated sewage through two outfall lines, one to the Swannanoa River and the other to the French Broad River. The outfall line to the Swannanoa River serves an estimated population of 400 persons; whereas, the outfall line to the French Broad River serves an estimated population of 600 persons as well as discharging a portion of the waste collected by the Busbee system. The population equivalent to the Swannanoa River is estimated to be 400 and the population equivalent to the French Broad River, including the Busbee waste, is estimated to be 850.

Gorham Mfg. Company discharges untreated industrial waste to French Broad River. Since this plant was beginning operations in 1954, information concerning the nature of this waste was not available.

Weaverville - The Weaverville Sewer System serves an estimated connected population of 800 persons and also collects the industrial waste from the Hadley Corp. This waste is discharged untreated into Reems Creek and has an estimated population equivalent of 1,050.

Mars Hill College discharges the effluent from its primary treatment plant into Gabriel Creek. This sewerage system serves an estimated population of 1,000 persons and discharges an effluent having an estimated population equivalent of 700.

Hammarlund Manufacturing Company discharges the waste from its metal plating room into a waste treatment plant. The metallic ions are precipitated and allowed to settle before the effluent is discharged into Banjo Branch. If this plant is properly operated and maintained, its effluent should not adversely affect the receiving stream.

Marshall discharges untreated domestic sewage from an estimated connected population of 745 persons into the French Broad River.

Hot Springs discharges raw sewage into French Broad River and Spring Creek. It is estimated that the system discharging into French Broad River serves an estimated population of 275 persons, while the system discharging into Spring Creek serves an estimated population of 440 persons.

Several schools in the area discharge waste either treated or untreated into the streams of the drainage system.

Red Oak School, Buncombe County, enrollment 266, discharges waste, after receiving primary treatment into Shepard Branch.

Barnardsville School, Buncombe County, discharges untreated sewage from an enrollment of 486 students into Ivy River.

Candler High School, Buncombe County, enrollment 1,213, discharges raw sewage into Hominy Creek.

Sand Hill High School, Buncombe County, enrollment 1,100, discharges raw sewage into Hominy Creek.

Walnut High School, Madison County, discharges raw sewage into Brush Creek.

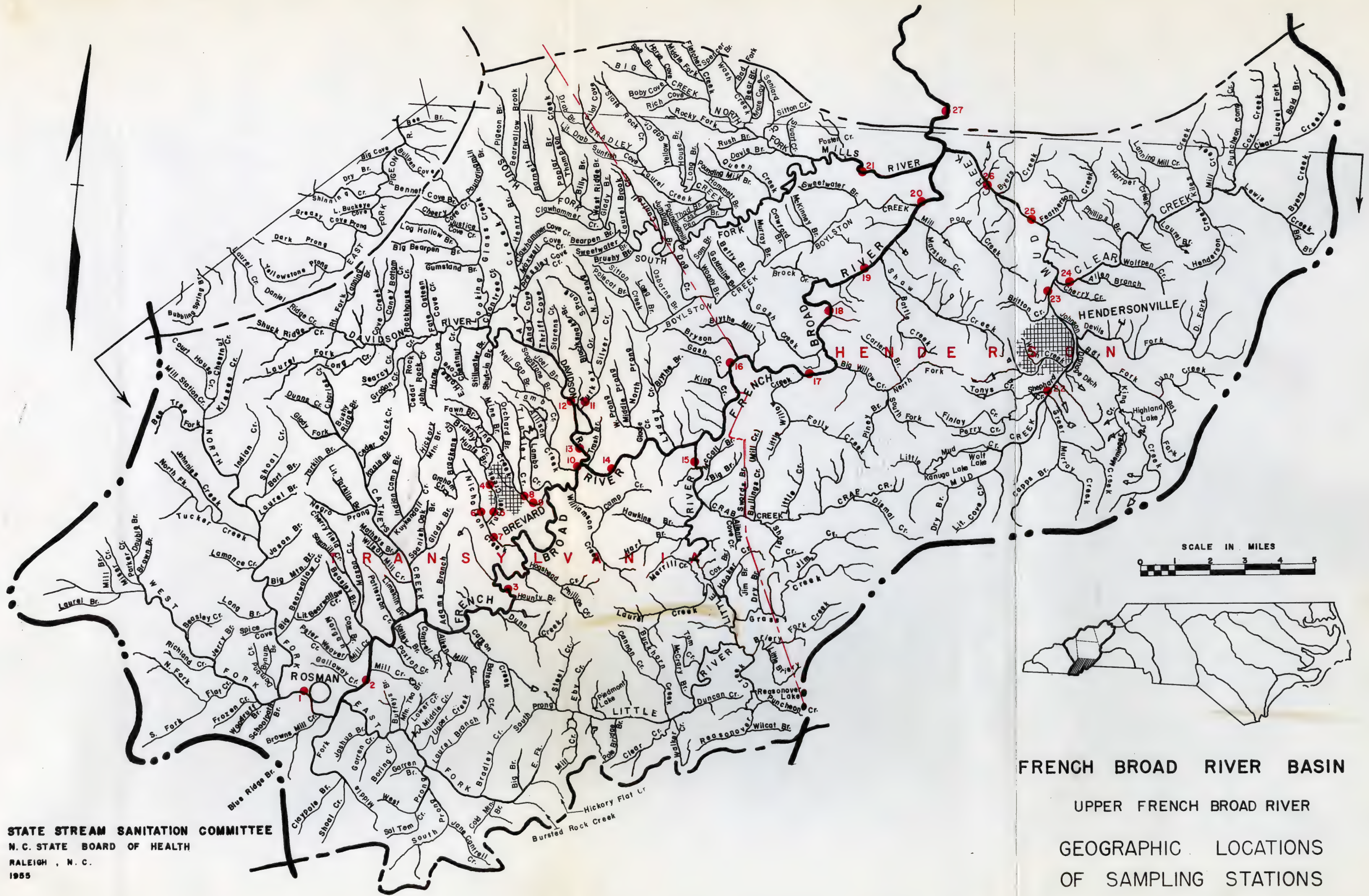
White Rock School, Madison County, enrollment 647, discharges raw sewage into Shelton Laurel Creek.

Beech Glen School, Madison County, discharges raw sewage into Little Ivy Creek.

Ebbs Chapel School, Madison County, discharges raw sewage into Laurel Creek.

Potential Future Development

Due to the topography, climate, and scenic nature of the watershed area, the greatest potential future development will probably be in the realm of tourist and recreational activities. The fishing, hunting and recreational aspects, such as camping, etc., should be protected. The section also has possibilities for the future development of industries. Even though the French Broad River is grossly polluted, many of the tributary streams are not polluted and could serve as a source of high quality industrial process water.



STATE STREAM SANITATION COMMITTEE
N.C. STATE BOARD OF HEALTH
RALEIGH, N.C.
1955

FRENCH BROAD RIVER BASIN
UPPER FRENCH BROAD RIVER
GEOGRAPHIC LOCATIONS
OF SAMPLING STATIONS

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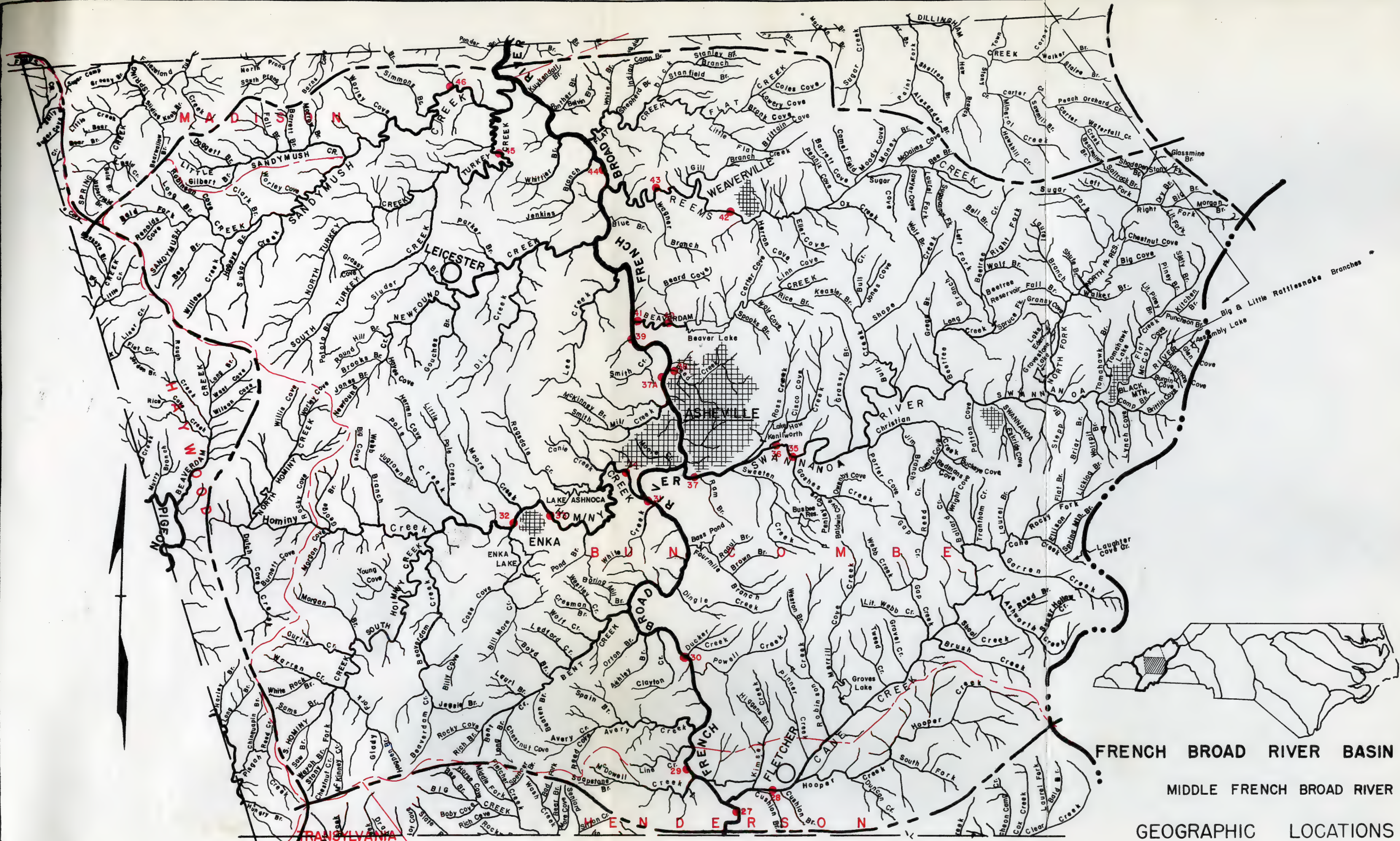
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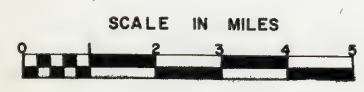
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STATE STREAM SANITATION COMMITTEE
N. C. STATE BOARD OF HEALTH
DALETON, N. C.
1955



FRENCH BROAD RIVER BASIN
MIDDLE FRENCH BROAD RIVER
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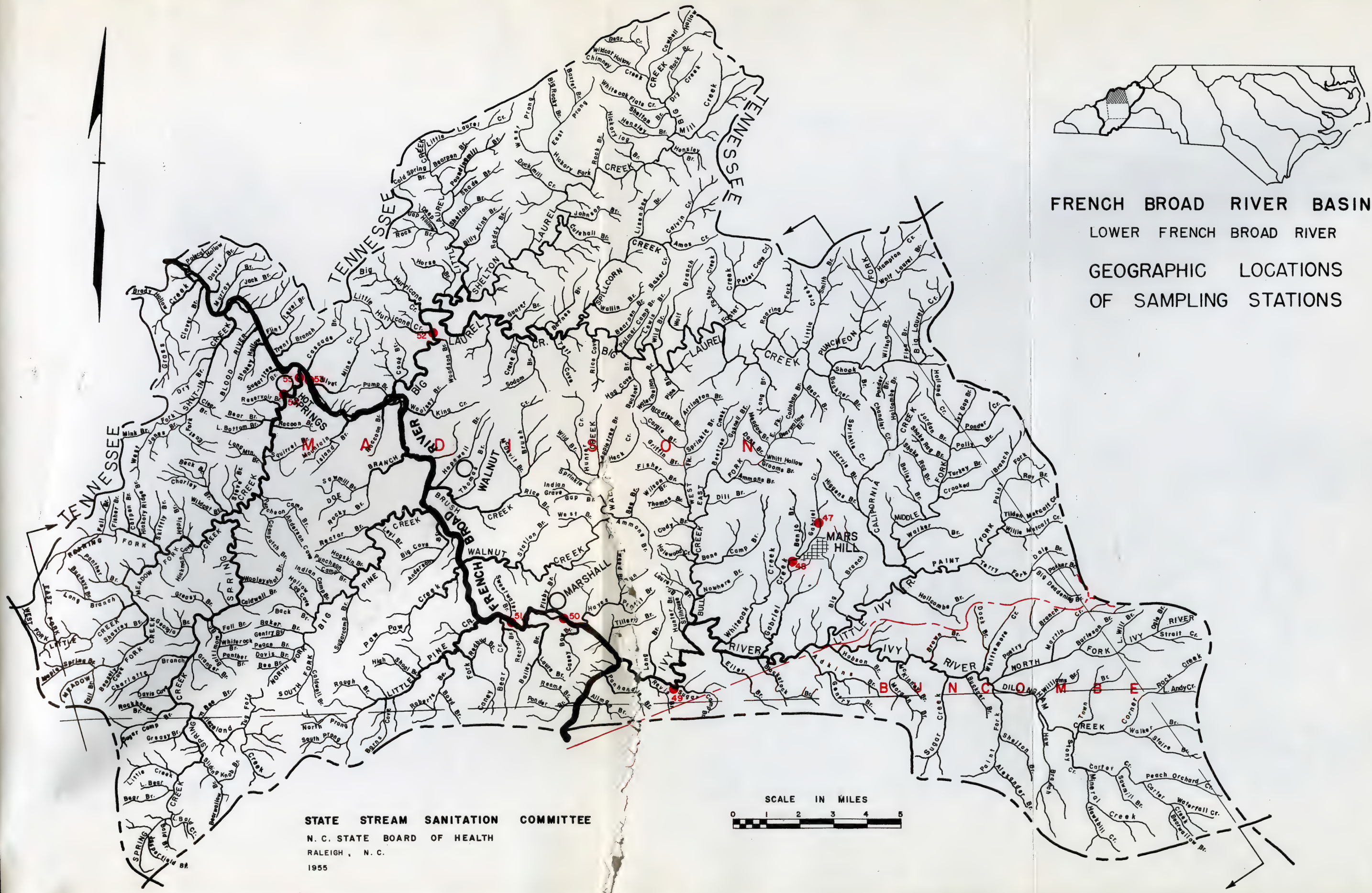
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FRENCH BROAD RIVER BASIN
LOWER FRENCH BROAD RIVER
GEOGRAPHIC LOCATIONS
OF SAMPLING STATIONS

STATE STREAM SANITATION COMMITTEE
N. C. STATE BOARD OF HEALTH
RALEIGH, N. C.
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TABLE 1

LOCATIONS OF SAMPLING POINTS AND GAGING STATIONS

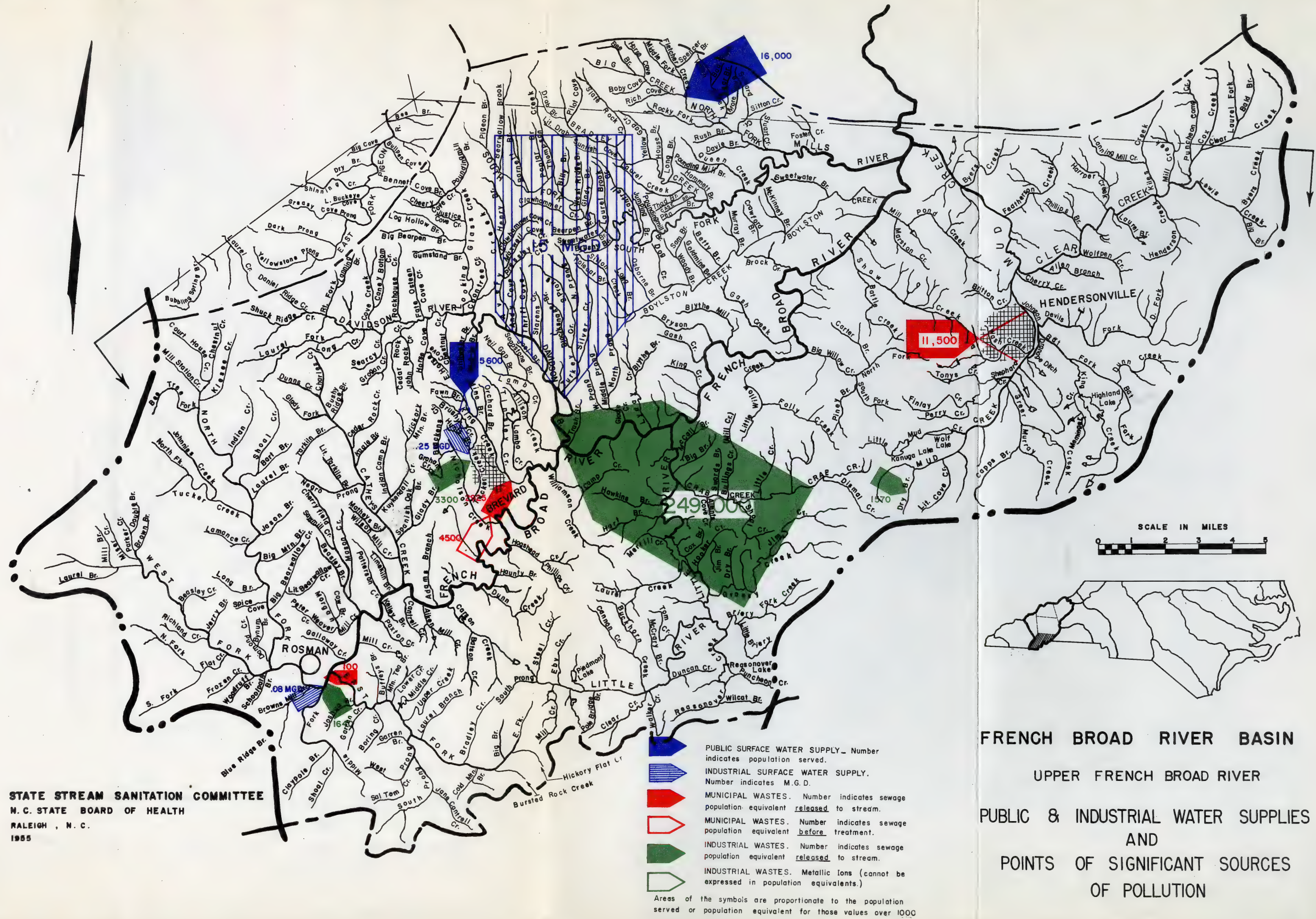
FRENCH BROAD RIVER DRAINAGE AREA

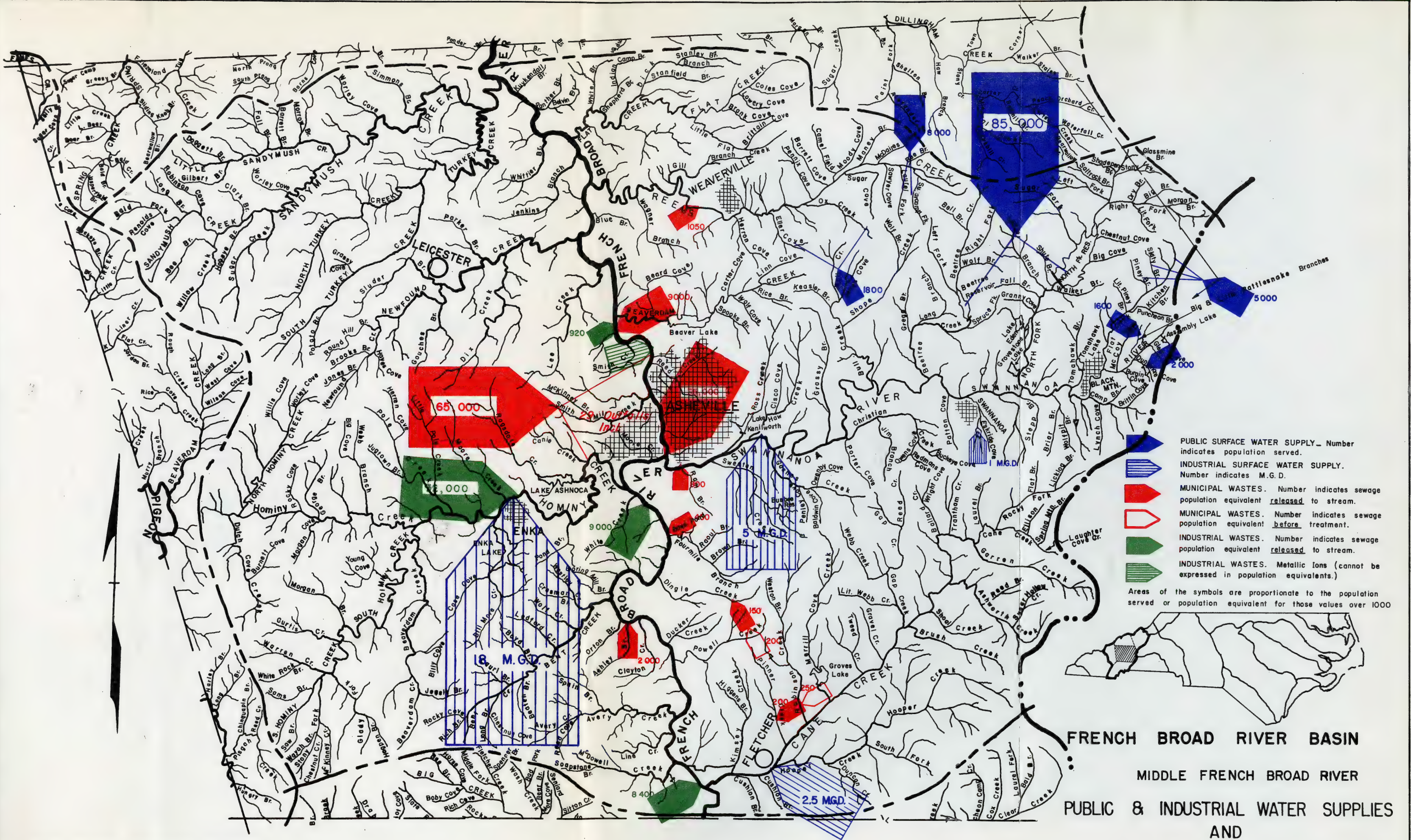
Sta. No.	Location	Stage Ref.	Miles From Mouth	Drainage Area In Sq. Miles
1	French Broad River at Rosman	R	216.5	67.9
2	French Broad River at Calvert	R	214.0	103
	Catheys Creek near Brevard	R	2.1	11.7
3	French Broad River near Brevard		202.3	140
4	Tucker Creek at Brevard	Staff	0.9	1.2
5	Tucker Creek near Brevard	R.P.	0.3	1.65
6	Nicholson Creek at Brevard	Staff	1.6	3.02
7	Nicholson Creek near Brevard		0.7	
8	King Creek near Brevard		1.1	
9	King Creek at Brevard	R.P.	0.6	4.17
10	French Broad River at Dunns Rock		192.1	170
11	Turkey Creek at Pisgah Forest		0.1	5.55
12	Davidson River near Brevard	R	2.0	40.4
13	Davidson River at Pisgah Forest		0.4	46.8
14	French Broad River at Patton Bridge		190.6	220
15	Little River near Penrose	R	1.3	41.4
	Crab Creek near Penrose	R	1.6	10.9
16	French Broad River at Blantyre	R	183.7	296
17	French Broad River near Etowah		180.8	308
18	French Broad River at McLean Bridge		177.1	315
19	French Broad River at Johnson Bridge		173.3	328
20	Boylston Creek near Horseshoe	R	1.7	14.8
21	Mills River near Mills River		2.5	66.7
22	Mud Creek near Hendersonville		10.2	
23	Mud Creek at Balfour		6.4	
24	Clear Creek near Hendersonville	R	1.2	42.2
25	Mud Creek near Hillgirt		3.7	
26	Mud Creek at Naples	R	1.7	109
27	French Broad River at Butler Bridge		167.4	545
28	Cane Creek at Fletcher	R	2.4	63.1
29	French Broad River at Fanning Bridge		165.3	640
30	French Broad River at Long Shoals Bridge		160.7	662
	French Broad River at Bent Creek	R	157.7	676
31	French Broad River at Biltmore Ferry		151.6	696
	Hominy Creek at Candler	R	9.9	80.5
32	Hominy Creek at Enka		8.4	
33	Hominy Creek below Enka	R.P.	6.7	91.1
34	Hominy Creek at N. C. Highway 191	Staff	0.9	104
35	Swannanoa River near Fairview		4.3	
36	Swannanoa River near Asheville		3.2	
	Swannanoa River at Biltmore	R	1.6	130
37	Swannanoa River near Biltmore		0.7	
37A	French Broad River at Asheville	R	145.8	945

Sta. No.	Location	Stage Ref.	Miles From Mouth	Drainage Area In Sq. Miles
38	Reed Creek at Asheville		0.1	
39	French Broad River at Craggy		143.1	
40	Beaverdam Creek near Asheville		1.4	
41	Beaverdam Creek near Elk Mountain		0.3	12.1
42	Reems Creek at Weaverville		4.4	
43	Reems Creek near Weaverville	Staff	2.3	33.4
44	French Broad River at Alexander		136.4	
45	Turkey Creek near Alexander		3.9	
46	Sandy Mush Creek near Alexander	R	1.3	79.5
47	Gabriel Creek near Mars Hill		5.0	
48	Gabriel Creek at Mars Hill		3.5	
49	Ivy River near Marshall	R	1.9	158
	French Broad River at Marshall	R	126.5	1,332
50	French Broad River at Marshall		125.2	1,338
51	French Broad River at Redmon Dam		122.9	1,343
52	Big Laurel Creek near Stackhouse	R	4.0	126
53	French Broad River at Hot Springs	Staff	108.8	1,567
54	Spring Creek above Hot Springs	R.P.	0.6	71.8
55	Spring Creek below Hot Springs	Staff	0.1	72.0
56	French Broad River near Wolf Creek, Tenn.		96.2	

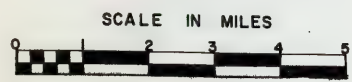
Stage Reference

R. - Recording Gage
R.P. - Reference Point



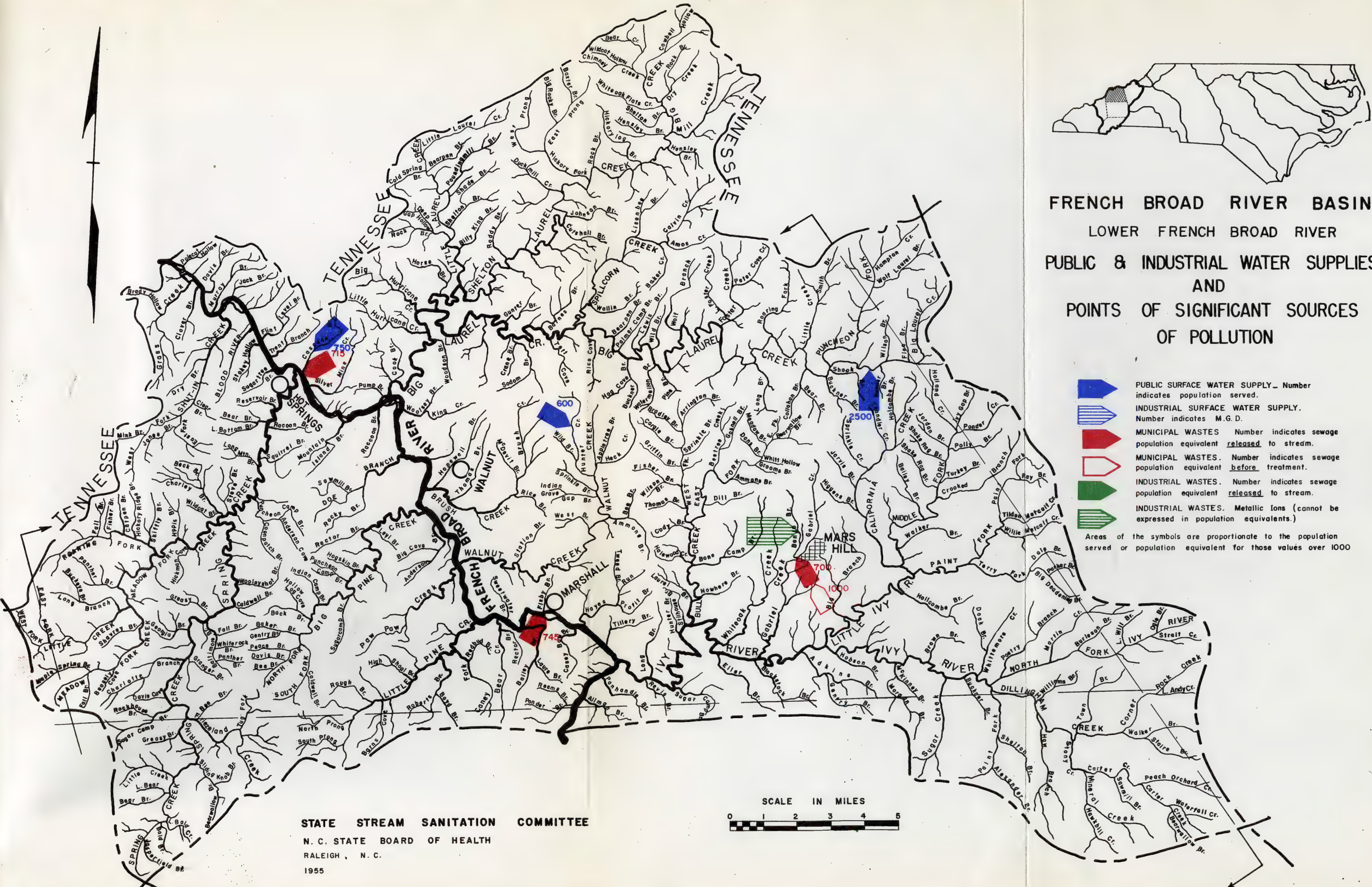


FRENCH BROAD RIVER BASIN
MIDDLE FRENCH BROAD RIVER
PUBLIC & INDUSTRIAL WATER SUPPLIES
AND
POINTS OF SIGNIFICANT SOURCES
OF POLLUTION



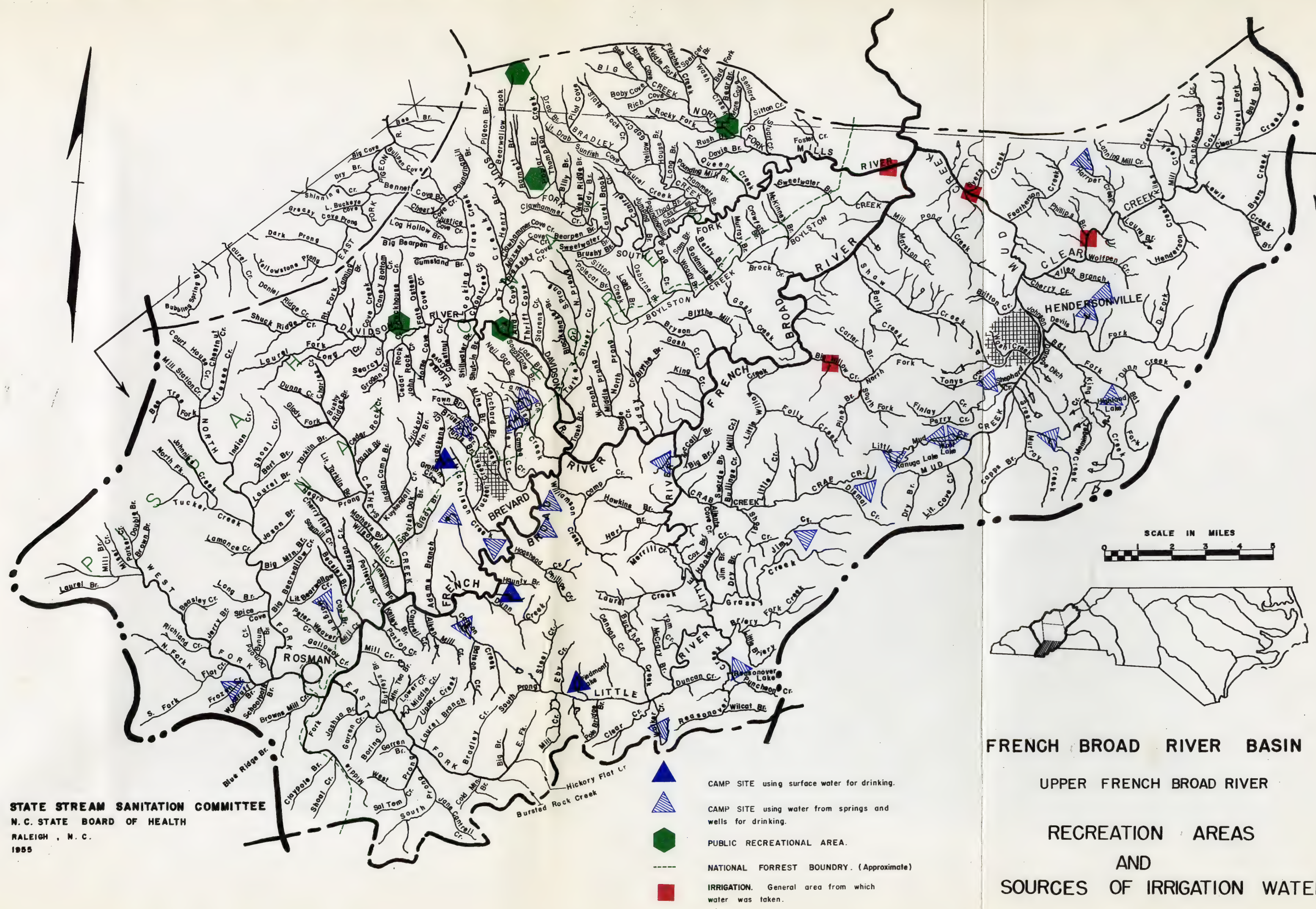
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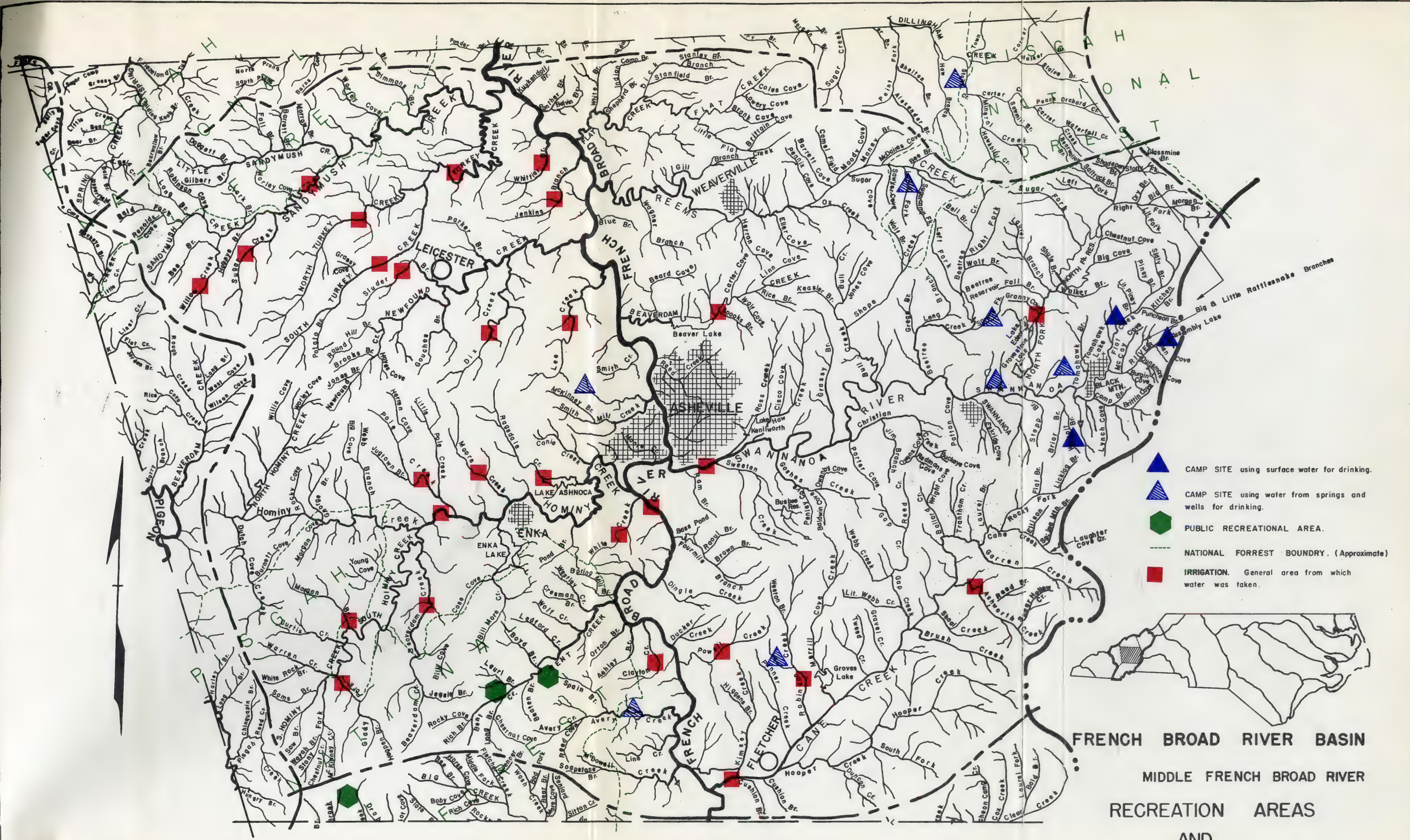
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STATE STREAM SANITATION COMMITTEE
N. C. STATE BOARD OF HEALTH
RALEIGH, N. C.
1955

FRENCH BROAD RIVER BASIN
UPPER FRENCH BROAD RIVER
RECREATION AREAS
AND
SOURCES OF IRRIGATION WATER

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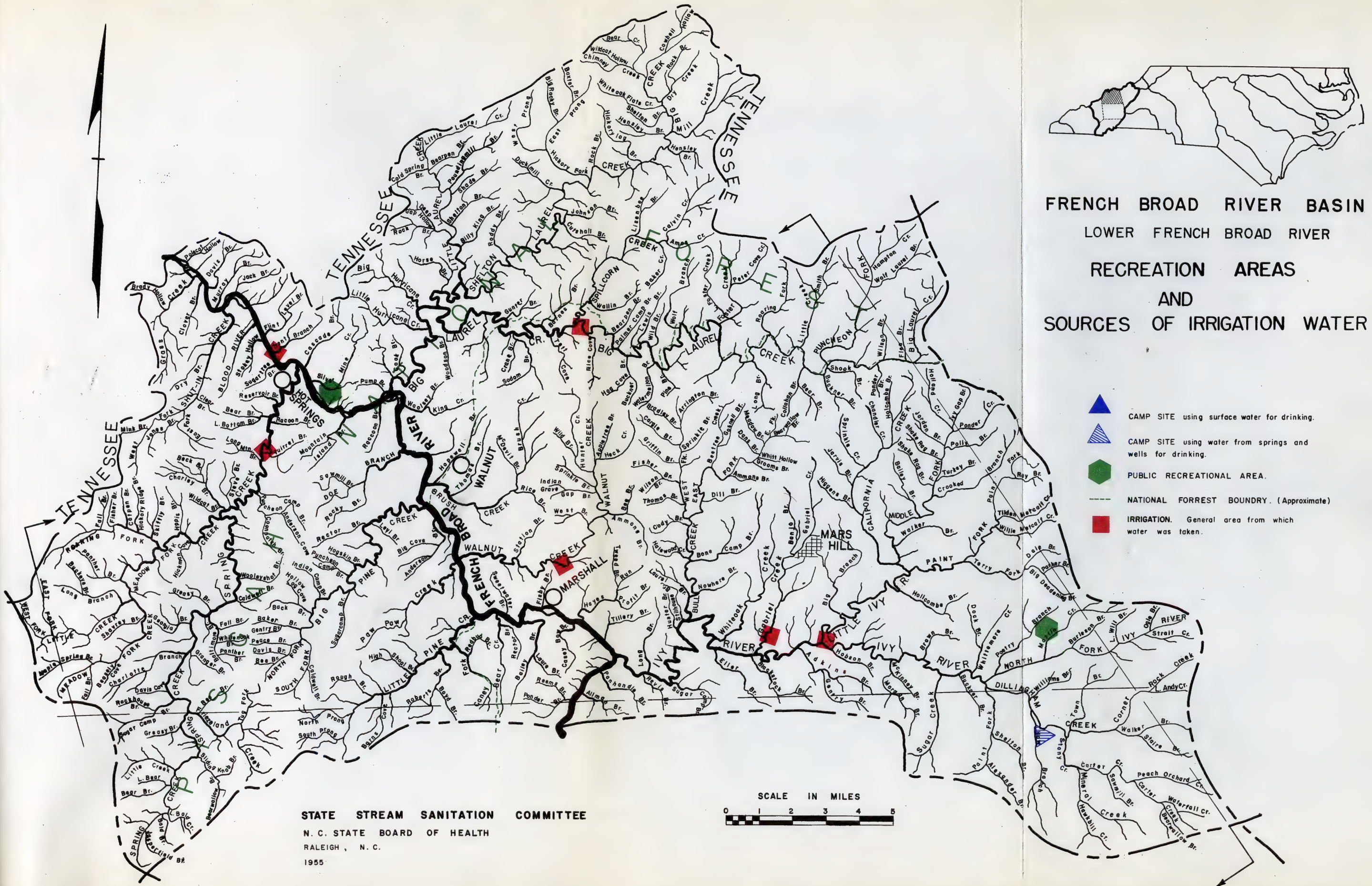


STATE STREAM SANITATION COMMITTEE
N. C. STATE BOARD OF HEALTH
RALEIGH, N. C.
1955

FRENCH BROAD RIVER BASIN
MIDDLE FRENCH BROAD RIVER
RECREATION AREAS
AND
SOURCES OF IRRIGATION WATER

UNIVERSITY

1910



FRENCH BROAD RIVER BASIN
LOWER FRENCH BROAD RIVER
RECREATION AREAS
AND
SOURCES OF IRRIGATION WATER

- CAMP SITE using surface water for drinking.
- CAMP SITE using water from springs and wells for drinking.
- PUBLIC RECREATIONAL AREA.
- NATIONAL FOREST BOUNDRY. (Approximate)
- IRRIGATION. General area from which water was taken.

STATE STREAM SANITATION COMMITTEE
N. C. STATE BOARD OF HEALTH
RALEIGH, N. C.
1955

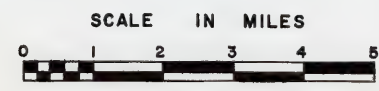


TABLE 2

PUBLIC AND INDUSTRIAL SURFACE WATER SUPPLIES
FRENCH BROAD RIVER DRAINAGE AREA

Community or Industry	Pop. 1950	Est. Pop. Served	Avg. M.G.D. Used	Owner- ship	Source of Supply	Date In- stalled	Water Treatment Facilities	
							Design Capacity (M.G.D.)	Treatment Processes
American Enka Corp. Asheville	53,000	85,000	18.0	P	Hominy Creek	-	-	Coag., Sed., Filter
			10.0	M	N. Fork Swannanoa River	1923	14.0	Cl ₂
Beacon Mfg. Co.	-	-	1.0	P	Bee Tree Creek	-	-	Coag., Sed., Filter
Brevard	3,908	5,600	1.0	M	Eskridge Cove	1905	1.0	Cl ₂
Black Mountain	1,174	2,000	0.25	M	King & Norton Creeks	1912	0.54	Cl ₂
Cranston Printworks	-	400	2.5	P	Rocky Branch	-	-	Pre Cl ₂ , Filter, Post
					Cane Creek	-	-	Cl ₂
Ecusta Paper Co.	-	2,235	15.0	P	Davidson River	-	-	Coag., Sed., Filter, Cl ₂
Hendersonville	6,103	16,000	1.9	M	N. Fork Mills R. & Bradley Cr.	1923	4.0	Cl ₂
Hot Springs	773	750	0.05	M	Cascade Branch	1940	0.5	Cl ₂
Mars Hill	1,404	2,500	0.25	M	N. Fork Laurel Creek	1927	-	Cl ₂
Marshall	993	600	0.06	M	Hunter Creek	1920	-	Cl ₂
Montreat	W- 260	W- 260	-	P	Slaty Branch	-	-	Cl ₂
Ridgcrest	W- 300	W- 300	-	P	Rattlesnake Branch	-	-	Cl ₂
Sayles Biltmore Bleachery	-	-	5.0	P	Swannanoa River	-	-	Coag., Sed., Filter, Cl ₂
Toxaway Tanning Co.	-	-	0.08	P	French Broad River	-	-	-
Transylvania Tanning Co.	-	-	0.25	P	Tucker Creek	-	-	-
Weaverville	1,111	1,800	0.09	M	Ox Creek, Eller Cove	1913	0.1	Cl ₂
Woodfin S. D.	-	8,000	0.5	M	Laurel Fork Reems Creek	1928	1.0	Cl ₂

TABLE 3

SOURCES OF SIGNIFICANT POLLUTION
FRENCH BROAD RIVER DRAINAGE AREA

Source	Pop. 1950	Est. Pop. Served	Owner- ship	Kind of Waste	% Waste	Type Treat- ment	Est. P.P.E. before Treatment	Est. P.P.E. after Treatment	Receiving Stream
American Enka Corp. Asheville	-	-	P	I.W.	10.0	Lagoons	-	32,000	Hominy Creek
Asheville By-Products Co.	53,000	53,970	M	M.W.	6.7	None	65,000	65,000	Hominy Cr. & French Broad R.
Baltimore Dairy Farms	-	-	P	I.W.	-	None	920	920	French Broad River
Baltimore Forest	-	-	P	I.W.	0.3	None	9,000	9,000	French Broad River
	750	750	M	M.W.	0.1	None	1,250	1,250	French Broad & Swannanoa Rivers
Brevard	3,908	4,500	M	M.W.	0.75	Primary	4,500	2,925	King Creek
Transylvania Tanning Co.	-	-	P	I.W.	0.25	None	3,300	3,300	Tucker Creek
Buncombe County San- Dist.	-	-	P	I.W.	0.25	None	3,300	3,300	Tucker Creek
Beaverdam	-	1,000	S.D.	M.W.	0.10	None	-	-	Woodfin S.D. Sewer
Busbee	-	200	S.D.	M.W.	0.02	Primary	200	150	Dingle Creek
Caney Valley	-	800	S.D.	M.W.	0.08	None	-	-	Asheville Sewer
Crescent Hill	-	250	S.D.	M.W.	0.03	Primary	250	200	Pinner Creek
Fairview	-	3,000	S.D.	M.W.	0.30	None	-	-	Swannanoa S.D. Sewer
Skyland	-	2,000	S.D.	M.W.	0.20	None	2,000	2,000	French Broad River
Swannanoa	-	20,000	S.D.	M.W.	6.0	None	35,000	35,000	French Broad River
Black Mountain	-	2,500	M	M.W.	0.26	None	-	-	Swannanoa S.D. Sewer
Ridgecrest	-	W-300							
	-	S-1,600	P	M.W.	0.20	None	-	-	Swannanoa S.D. Sewer
Montreat	-	W-1,000							
	-	S-6,000	P	M.W.	0.60	None	-	-	Swannanoa S.D. Sewer
	-	-	P	I.W.	0.16	None	-	-	Swannanoa S.D. Sewer
Beacon Mfg. Co.	-	-	P	I.W.	0.74	None	-	-	Swannanoa S.D. Sewer
Sayles Baltimore Bleachery	-	-	P	I.W.	0.74	None	-	-	Swannanoa S.D. Sewer

TABLE 3

SOURCES OF SIGNIFICANT POLLUTION
FRENCH BROAD RIVER DRAINAGE AREA

Source	Pop. 1950	Est. Pop. Served	Owner- ship	Kind of Waste	Est. Cals. Waste M.G.D.	Type Treat- ment	Est. P.E. before Treatment	Est. P.E. after Treatment	Receiving Stream
Woodfin		6,000	S.D.	M. W.	0.90	None	9,000	9,000	French Broad River
Chipman LaCrosse									
Hosiery Mills	-	-	P	I. W.	0.08	None	1,570	1,570	Dye Branch
Cranston Printworks	-	-	P	I. W.	2.0	None	8,400	8,400	French Broad River
Ecusta Paper Co.	-	-	P	I. W.	15.0	None	249,000	249,000	Davidson River
Gorham Mfg. Co.	-	-	P	I. W.	-	None	-	-	French Broad River
Hendersonville	6,103	8,000	M	M. W.	1.0	None	11,500	11,500	Mud Creek
Hot Springs	721	715	M	M. W.	0.07	None	715	715	Spring Cr. & French Broad R.
Mars Hill College	-	1,000	P	M. W.	0.08	Primary	1,000	700	Gabriel Creek
Hammarlund Mfg. Co.	-	-	P	I. W.	-	Chem. Prec.	-	-	Banjo Branch
Marshall	983	745	M	M. W.	0.07	None	745	745	French Broad River
Weaerverville	1,111	800	M	M. W.	0.08	None	1,050	1,050	Reems Creek
Rosman	535	100	P	M. W.	-	None	100	100	French Broad River
Toxaway Tanning Co.	-	-	P	I. W.	0.1	None	1,640	1,640	French Broad River

TABLE 14

ANALYTICAL RESULTS

FRENCH BROAD DRAINAGE AREA

Collected Date Time 1954	Temp. °C	D.O. ppm %Sat.	Dis. cfs	P. O. D. 5 Day lbs./day 20 °C	Alkalinity Phenol. M.O.	pH	Cl ⁻	Hard- ness	Color True	Tur- bidity	Coliform M.P.N.	Dis- sol- ved ppm	Solids		
													Sus- pen- ded ppm	Total ppm	
STATION NO. 1 - Mile F.B. 216.5															
7-22 0645	21	7.7	87	71	0.7	8	6.7	0	5	15	4	2,300	29	5	34
7-29 0650	18	8.0	84	68	0.4	9	6.7	0	5	8	1	4,300	14	10	24
8-9 0850	20	8.2	90	92	0.5	20	7.4	1	4	10	8				
8-17 0820	20	8.1	89	54	0.8	9	7.0	1	5	12	4				
8-18 1335	25	8.0	96	54	0.5	8	6.8	1	3	10	1				
8-24 0830	21	8.0	89	75	0.4	8	6.8	1	4	16	1		24	10	34
9-17 0925	17	8.9	90	44	0.3	9	6.7	1	4	12	3	3,300	22	8	30
Avg.	20	8.1	89	65	0.5	10	7.4	1	4	16	8	4,300	29	10	34
Max.	25	8.9	96	92	0.8	20	6.7	1	5	16	1	2,300	14	5	24
Min.	17	7.7	84	44	0.3	8	6.7	0	3	8					
STATION NO. 2 - Mile F.B. 214															
7-22 0700	22	7.6	86	120	1.2	7	6.5	1	5	15	2	24,000	27	6	33
7-29 0715	19	7.9	85	108	0.4	9	6.8	0	5	8	1	4,300	16	7	23
8-9 0935	22	7.9	90	149	0.8	10	7.2	0	5	10	3				
8-17 0835	22	7.8	89	86	0.6	10	6.8	1	5	10	4				
8-18 1330	24	7.9	93	86	0.9	11	7.1	2	7	30	4				
8-24 0850	21	7.9	88	116	1.0	10	6.8	2	5	19	1	9,300	33	6	39
9-17 0950	17	9.1	94	71	1.0	9	6.9	1	5	15	3	13,000	25	6	31
Avg.	21	8.0	89	105	0.8	9	7.2	1	5	30	4	24,000	33	7	39
Max.	24	9.1	94	149	1.2	11	6.5	2	7	8	1	4,300	16	6	23
Min.	17	7.6	85	71	0.4	7	6.5	0	5						

TABLE 4

ANALYTICAL RESULTS

Collected		Temp. °C	B. O. D.		Dis. cfs.	D.O. ppm	%Sat.	Alkalinity Phenol. M.O.	pH	Cl ⁻	Hard- ness	Color True	Tur- bidity	Coliform M.P.N.	Dis- sol- ved ppm	Solids	
Date Time	1954		5 Day 20 °C at 25 °C	lbs./day												Sus- pen- ded ppm	Total ppm
STATION NO. 3 ~ Mile F.B. 202.3																	
7-22	0730	22	7.1	80	160	0.8	863	10	6.8	2	6	20	3	15,000	33	12	45
7-29	0750	20	7.2	79	141	0.7	665	10	6.8	4	6	15	1	24,000	28	11	39
8-9	1000	22	7.4	84	165	0.6	665	11	7.2	1	5	15	3				
8-17	0905	22	6.7	76	115	1.1	855	11	6.5	3	7	40	6				
8-24	1010	22	7.0	84	154	1.7	1,770	11	6.8								
9-20	1100	22	8.0	90	85	1.0	573	10	6.9	1	6	25		38		8	46
Avg.		22	7.2	82	137	1.0	899	10		2	6	23	3	20,000	36	10	46
Max.		22	8.0	90	165	1.7	1,770	11	7.2	4	7	40	6	24,000	38	12	46
Min.		20	6.7	76	85	0.6	573	10	6.5	1	5	15	1	15,000	28	8	39
STATION NO. 4 ~ Mile Tu. 1.0																	
8-18	1220	23	7.2	83	0.8	1.3	7	12	6.7	2	7	6	3	46,000	31	10	41
8-24	0920	20	7.6	83	0.8	2.0	11	12	6.7	2	8	6	10	4,300	42	31	73
8-30	0905	19	7.5	80	1.5	0.8	8	11	6.9	1	7	10	6		24	20	44
9-17	1030	18	7.8	82	0.8	0.8	4	11	6.8	1	6	15	20		33	42	75
Avg.		20	7.5	82	1.0	1.2	8	12		2	7	9	10	25,000	33	25	58
Max.		23	7.8	83	1.5	2.0	11	12	6.9	2	8	15	20	46,000	42	42	75
Min.		18	7.2	80	0.8	0.8	4	11	6.7	1	6	6	3	4,300	31	10	41
STATION NO. 5 ~ Mile Tu. 0.3																	
8-18	1235	26	0.0	0	1.6	4.0	4,750	96	6.0	575	572	850	2,600	1,000,000	3,534	1,070	4,604
8-24	0930	22	0.0	0	1.6	4.0	1,460	314	11.3	362	462	1,600	1,100		1,271	646	1,917
8-30	0915	21	0.0	0	1.6	4.6	496	26	6.6	8	28	375	100		406	31	406
9-17	1020	21	0.0	0	1.4	230	2,180	28	5.6	190	130	2,600	400		2,510	212	2,722
Avg.		23	0.0	0	1.6	210	1,220	156		284	298	1,360	1,100		1,930	490	2,412
Max.		26	0.0	0	1.6	4.0	4,750	314	11.3	575	572	2,600	2,600		3,534	1,070	4,604
Min.		21	0.0	0	1.4	4.6	496	28	5.6	8	28	375	100		406	31	406

TABLE 4
ANALYTICAL RESULTS

Collected Date Time 1954	Temp. °C	D.O. ppm %Sat.	Dis. cfs	B. O. D. 5 Day lbs./day at 20 °C	Alkalinity Phenol. M.O.	pH	CL ⁻	Hard- ness	Color True	Tur- bidity	Coliform M.P.N.	Dis- sol- ved ppm	Solids	
													Sus- pen- ded ppm	Total ppm
STATION NO. 6 -- Mile Ni. 1.6														
8-18 1245	21	7.8	3.5	1.8	10	6.7	1	6	8	8	46,000	26	20	46
8-24 0940	19	8.2	3.5	0.7	10	6.8	1	7	10	3	15,000	29	10	39
8-30 0920	17	8.1	3.3	0.4	11	6.9	1	6	10	5		14	22	36
9-17 1010	17	8.6	2.0	0.6	10	7.0	1	6	15	3	31,000	8	11	19
Avg.	19	8.2	3.1	0.9	10		1	6	11	5	46,000	19	16	35
Max.	21	8.6	3.5	1.8	11	7.0	1	7	15	8	15,000	26	22	46
Min.	17	7.8	2.0	0.4	10	6.7	1	6	8	3		8	10	19
STATION NO. 7 -- Mile Ni. 0.7														
8-18 1300	24	0.3	5.1	50	12	9.2	215	74	1,000	380	46,000	577	178	755
8-24 0950	20	0.0	5.1	80		6.2	240	87	600	340	210,000	922	176	1,098
8-30 0940	19	6.8	4.9	2.3		7.0	3	13	20	5		41	10	51
9-17 1040	19	0.3	3.4	52		5.6	229	40	340	120	130,000	535	148	746
Avg.	21	1.8	4.6	46	12		172	54	500	210	210,000	922	128	663
Max.	24	6.8	5.1	80		9.2	240	87	1,000	380	46,000	41	178	1,098
Min.	19	0.0	3.4	2.3		5.6	3	13	20	5			10	51
STATION NO. 8 -- Mile Ni. 1.1														
8-18 1115	22	7.8	2.1	2.4		6.6	1	5	10	3	46,000	30	5	35
8-24 1035	20	8.0	2.1	1.4		6.9	1	6	10	2	9,300	33	10	43
8-30 1035	19	7.9	2.7	1.2		6.8	1	6	10	8		21	14	35
9-17 1105	18	8.4	2.1	1.4		6.9	3	5	15	2	28,000	19	13	32
Avg.	20	8.2	2.2	1.6			2	5	11	4	46,000	26	10	36
Max.	22	8.4	2.7	2.4		6.9	3	6	15	8	9,300	33	14	43
Min.	18	7.8	2.1	1.2	9	6.6	1	5	10	2		19	5	32

ANALYTICAL RESULTS

Collected Date Time 1954	Temp. °C	D.O.		Dis. cfs	D.O.		pH	CL	Hard- ness	Color True	Tur- bidity	Coliform M.P.N.	Dis- solved ppm	Solids Suspended ppm	Total ppm
		ppm	%Sat.		5 Day 20 °C	lbs./day at 25 °C									
STATION NO. 9 -- Mile Ki. 0.6															
8-18 1125	22	4.2	48	3.2	7.7	167	22	6.3	8	10	12	1,100,000	41	13	54
8-24 1025	21	4.7	53	3.2	4.8	103	18	6.9	9	15	8	230,000	47	11	58
8-30 1005	20	4.6	50	3.8	7.4	189	17	6.9	9	15	10		29	15	44
9-17 1050	19	3.9	42	3.2	9.6	208	22	6.9	9	20	15		51	16	67
Avg.	20	4.4	48	3.4	7.4	167	20		9	15	11	340,000	42	14	56
Max.	22	4.7	53	3.8	9.6	208	22	6.9	9	20	15	1,100,000	47	16	67
Min.	19	3.9	42	3.2	4.8	103	17	6.3	8	10	8	230,000	29	11	44
STATION NO. 10 -- Mile F.B. 192.1															
7-22 0750	23	6.4	75	1.95	1.1	1,450	11	6.8	7	15	10	75,000	36	27	63
7-29 0815	21	6.5	74	1.70	1.2	1,360	12	7.0	8	20	2	43,000	21	20	41
8-9 0815	22	6.7	76	2.00	1.0	1,350	12	7.1	6	15	10		32	18	50
8-17 0925	24	6.4	75	1.40	0.8	755	12	6.9	7	15	10	43,000	42	18	60
8-24 1050	23	6.6	76	1.05	0.8	1,000	11	6.8	7	20	40				
9-9 0010	22	4.9	56	1.14	3.6	2,770	20	7.4	20	180	35	93,000	109	22	131
9-9 0400	20	6.3	69	1.16	1.3	1,020	14	6.6	11	60	25	23,000	72	16	88
9-9 0900	20	6.5	71	1.15	0.9	699	13	6.7	8	60	10	23,000	63	15	78
9-9 1200	23	7.1	82	1.12	0.7	529	12	6.7	7	30	10	43,000	54	14	68
9-9 1600	24	7.1	83	1.34	0.6	543	11	7.0	7	20	4	43,000	50	12	62
9-9 2000	23	6.6	76	1.60	1.4	1,510	12	7.0	8	20	6	43,000	52	12	64
9-10 2400	22	5.8	66	1.60	2.1	2,270	18	7.1	14	65	10	75,000	72	18	90
9-20 1115	23	7.2	82	1.02	0.9	620	12	6.9	7	20		43,000	32	11	43
Avg.	22	6.5	74	1.46	1.3	1,220	13		9	40	14	50,000	53	17	70
Max.	24	7.2	83	2.00	3.6	2,770	20	7.4	20	180	35	93,000	109	27	131
Min.	20	4.9	56	1.02	0.6	529	11	6.6	6	15	2	23,000	21	12	41

TABLE 4

ANALYTICAL RESULTS

Collected Date Time 1954	Temp. °C	D.O. ppm %Sat.	Dis. cfs	B. O ₂ D ₃		Alkalinity Phenol, M.O.	pH	Cl ⁻	Hard- ness	Color True	Tur- bidity	Coliform M.P.N.	Dis- sol- ved ppm	Solids	
				5 Day 20 °C	100% at 25 °C									Sus- pen- ded ppm	Total ppm
STATION NO. 11 ~ Mile Tu. 0.1															
8-30 0850	17	8.3	85	1.1		9	6.9	1	4	10	<1		21	8	29
9-17 1130	20	9.0	98	0.2		8	6.9	1	4	14	<1		30	5	35
Avg.	19	8.7	91	0.7		9		1	4	12	<1		25	7	32
Max.	20	9.0	98	1.1		9	6.9	1	4	14	<1		30	8	35
Min.	17	8.3	85	0.2		8	6.9	1	4	10	<1		21	5	29
STATION NO. 12 ~ Mile Da. 1.8															
7-22 0605	20	7.7	84	6.6	160	8	6.6	0	6	12	1	2,300	28	7	35
7-29 0615	18	7.9	83	0.5	111	9	6.9	0	5	11	<1	2,400	18	4	22
8-9 1025	21	8.3	92	1.2	340	10	7.6	0	7	14	<1		24	6	30
8-17 0740	20	7.9	86	0.9	213	9	6.6	1	5	12	<1		37	5	42
8-24 0745	20	7.8	85	1.2	340	9	6.6	0	5	15	<1		35	4	40
9-20 1025	20	8.6	94	0.9	91	8	6.9	0	5	18	<1	2,400	28	5	33
Avg.	19	8.0	87	0.9	209	9		0	5	14	<1	2,400	37	7	42
Max.	21	8.6	94	1.2	340	10	7.6	1	7	18	<1	2,300	18	4	22
Min.	18	7.7	83	0.5	91	8	6.6	0	5	11	<1				

TABLE 4

ANALYTICAL RESULTS

Collected Date Time 1954	Temp. °C	D.O. ppm %Sat.	Dis. cfs	B, O, D.		Alkalinity Phenol. M.O.	Acidity Phenol. M.O.	pH
				5 Day 20 °C at 25°C	lbs./day			
STATION NO. 13 -- Da. 0.4.								
7-22 0805	26	0.1	43	127	91,500	46		6.4
7-29 0825	24	0.3	39	91	24,000	61		6.6
8-9 0805	24	0.0	48	104	34,000	131		10.1
8-17 0935	30	0.0	26	178	31,200		232 128	2.7
8-24 0735	24	0.4	48	97	31,400	70		7.9
9-20 1015	30	0.0	18	>334*	>40,600*	139		6.8
Avg.	26	0.2	37	119	42,400	89	232 128	
Max.	30	0.4	48	>334	91,500	139	232 128	10.1
Min.	24	0.0	18	91	24,000	46	232 128	2.7

Collected Date Time 1954	Cl ⁻	Hardness	Color True	Turbidity	Coliform M, P, N.	Solids		Total ppm
						Dissolved ppm	Suspended ppm	
STATION NO. 13 -- Da. O. 4 (continued)								
7-22 0805	29	81	420	120	24,000	1,156	81	1,237
7-29 0825	40	100	480	110	24,000	1,128	80	1,208
8-9 0805	13	166	460	140		1,047	98	1,145
8-17 0935	45	136	300	270		2,494	280	2,774
8-24 0735	22	69	300	140	240,000			
9-20 1015	125	150	1,320		240,000	2,590	376	2,966
Avg.	46	117	540	150	130,000	1,683	183	1,866
Max.	125	166	1,320	270	240,000	2,590	376	2,966
Min.	13	69	300	110	24,000	1,047	80	1,145

* Excluded from average.

TABLE 4
ANALYTICAL RESULTS

Collected Date Time 1954	Temp. °C	D.O. ppm %Sat.	Dis. cfs	B. O. D. 5 Day 20 °C	Alkalinity Phenol. M.O.	pH	CL	Hard- ness	Color True	Tur- bidity	Coliform M.P.N.	Dis- solved ppm	Solids	
													Sus- pen- ded ppm	Total ppm
STATION NO. 14 - Mile F.B. 190.6														
7-22 0815	24	2.1	275	31	57,500	25	8	24	150	40	43,000	255	37	292
7-29 0835	22	1.8	235	36	57,100	39	8	24	220	50	93,000	289	30	319
8-9 0750	22	1.8	250	29	48,900	24	1	19	110	40		257	21	278
8-17 0950	28	1.5	190	40	29,400	24	10	27	150	50		355	45	400
8-24 0725	23	2.4	240	33	53,500	33	11	19	140	60		470	41	511
9-20 1000	23	0.5	125	54	45,600	45	16	33	320	48	68,000	325	35	360
Avg.	24	1.7	219	37	48,700	33	9	24	180	60	93,000	470	45	511
Max.	28	2.4	275	54	57,500	45	16	33	320	40	43,000	255	21	278
Min.	22	0.5	125	29	29,400	24	1	19	110					
STATION NO. 15 - Mile Li. 1.3														
9-3 0855	18	7.9	55	0.4	149	9	1	5	24	2	1,500	39	2	41
9-13 0930	16	8.5	45	0.2	61	12	1	6	24	1	2,300			
STATION NO. 16 - Mile F.B. 183.7														
7-22 0830	23	0.4	353	15	35,700	23	7	22	80	35	230,000	150	38	188
7-29 0900	22	0.5	287	11	21,600	21	9	22	55	30	150,000	150	30	180
8-9 0735	23	0.0	237	17	26,900	31	1	20	90	45				
8-17 1010	20	7.9*	216	16	23,000	28	7	21	100	35				
8-24 0705	23	0.3	364	15	37,600	22	13	18	100	65		353	40	393
9-20 0945	23	0.0	135	27	24,300	30	10	32	155		190,000	218	36	254
Avg.	22	0.2	265	16.8	28,200	26	8	23	97	42	230,000	353	40	393
Max.	23	7.9	364	27	37,600	31	13	32	155	65	150,000	150	30	180
Min.	20	0.0	135	11	21,600	21	1	18	55	30				

* Excluded from average.

TABLE 4
ANALYTICAL RESULTS

Collected Date Time 1954	Temp. °C	B. O. D.		Dis. cfs	D.O. ppm	%Sat.	Alkalinity		pH	Cl ⁻	Hard- ness	Color True	Tur- bidity	Coliform M.P.N.	Dis- sol- ved	Solids	
		5 Day 20 °C	20 °C at 25 °C				Phenol. M.O.	M.O.								Sus- pen- ded	Total ppm
STATION NO. 17 - Mile F.B. 180.8																	
7-22 0845	24	11		360	0.0	0	25,500	25	6.8	9	21	100	35	430,000	150	38	188
7-30 0840	23	14		265	0.0	0	25,000	35	7.0	12	33	80	30	93,000	192	32	224
8-9 0725	23	17		235	0.0	0	27,600	30	6.9	4	18	90	50				
8-17 1025	24	14		225	0.0	0	21,900	28	6.7	7	20	100	45				
8-24 0655	23	10		385	0.0	0	26,800	22	6.7	9	15	90	90				
9-9 0005	23	33		188	0.0	0	42,200	41	6.6	14	26	260	65	430,000	243	38	381
9-9 0400	20	27		189	0.0	0	34,700	45	6.8	12	25	220	35	240,000	329	27	356
9-9 0800	22	25		196	0.0	0	33,500	45	6.9	15	27	240	25	430,000	360	31	391
9-9 1200	24	29		199	0.0	0	38,700	46	6.8	18	26	340	35	2,100,000	334	37	371
9-9 1600	24	27		192	0.0	0	35,100	44	6.9	18	31	300	35	2,400,000	315	22	337
9-9 2000	23	33		185	0.0	0	41,300	46	6.8	14	26	280	40	430,000	325	22	347
9-10 2400	22	28		185	0.0	0	34,700	45	6.7	14	24	220	40	240,000	320	26	346
9-20 0935	23	27		142	0.0	0	25,900	35	6.8	12	28	170	45	430,000	366	35	401
Avg.	23	23		227	0.0	0	31,800	37		12	25	190		720,000	303	31	334
Max.	24	33		360	0.0	0	42,200	46	7.0	18	33	340	90	2,400,000	366	38	401
Min.	20	10		142	0.0	0	21,900	22	6.6	4	15	80	25	240,000	150	22	188
STATION NO. 18 - Mile F.B. 177.1																	
7-23 0655	24	9.2		350	0.0	0	21,700	25	6.8	6	20	80	10	430,000	155	19	174
7-30 0825	23	14		270	0.0	0	24,600	35	6.9	12	31	80	30	93,000	208	29	237
8-9 0715	23	12		245	0.0	0	20,500	31	6.7	3	19	90	55				
8-17 1040	21	13		230	0.0	0	20,200	32	6.8	7	20	100	50				
8-24 0645	23	9.2		405	0.0	0	25,200	30	6.9	17	20	90	65				
9-20 0925	23	22		145	0.0	0	21,700	37	6.5	12	28	170		340		24	364
Avg.	23	13.2		274	0.0	0	22,300	32		10	23	100	40	260,000	234	24	258
Max.	24	22		350	0.0	0	25,200	37	6.9	17	31	170	65	430,000	340	29	364
Min.	21	9.2		145	0.0	0	20,200	25	6.5	3	19	80	10	93,000	155	19	174

ANALYTICAL RESULTS

Collected Date Time 1954	Temp. °C	D.O.		Dis. cms	B.O.D.		Alkalinity Phenol. M.O.	pH	Cl ⁻	Hard- ness	Color True	Tur- bidity	Coliform M.P.N.	Dis- solved ppm	Solids	
		ppm	%Sat.		5 Day 20 °C	lbs./day at 25 °C									Sus- pen- ded ppm	Total ppm
STATION NO. 22 - Mile Mu. 10.2																
7-23 0750	22	6.8	77	18	1.5	182	13	6.8	1	8	25	4	43,000	40	19	59
7-30 0750	21	6.7	75	16	1.2	130	12	6.8	1	8	25	8	93,000	50	23	73
8-9 0645	20	7.1	77	12	1.1	89	13	6.8	2	7	20	20				
8-19 1010	20	7.4	81	11	0.6	45	12	7.1			20	8				
9-21 0850	19	7.7	82	9	1.4	85	13	6.8	1	7	30	10	68,000	43	18	61
Avg.	20	7.1	78	13	1.2	106	13		1	8	25		93,000	44	20	64
Max.	22	7.7	82	18	1.5	182	13	7.1	2	8	30	20	93,000	50	23	73
Min.	19	6.7	75	9	0.6	45	12	6.8	1	7	20	4	43,000	40	18	59
STATION NO. 23 - Mile Mu. 6.4																
9-3 0925	18	3.7	39	25	4.5	759	21	6.8	3	11	30	10	750,000	46	17	63
9-13 1035	17	3.2	33	15	5.5	557	22	6.8	2	11	30	10	930,000	46	16	62
9-21 0910	19	1.4	15	18	3.2	389	22	6.9	3	12	40					
9-30 1030	20	0.0	0	11	>5.5*	>408*	27	7.0		15			93,000			
10-14 1430	21	0.7	8	16	>11*	>1510*	30	6.8	5	15			590,000	46	17	63
Avg.	19	1.8	19	17	4.4	568	24		3	13	35	10	930,000	46	17	63
Max.	21	3.7	39	25	>5.5	>1510	30	7.0	5	15	40	10	930,000	46	17	63
Min.	17	0.0	0	11	3.2	389	21	6.8	2	11	30	10	93,000	46	16	62
STATION NO. 24 - Mile Cl. 1.2																
9-3 1010	17	8.5	87	14	1.0	95	16	6.7	2	8	30	140	15,000	40	140	140
9-13 1040	16	9.4	94	12	0.7	57	16	6.9	2	8	25	25	92,000			
10-14 1445	20	8.0	87	11	2.1	156	19	7.3	2	16	25	85	54,000			
Avg.	18	8.6	89	12	1.3	103	17		2	11	25	140	93,000			
Max.	20	9.4	94	14	2.1	156	19	7.3	2	16	30	25	15,000			
Min.	16	8.0	87	11	0.7	57	16	6.7	2	8	25	25				

* Excluded from average.

TABLE 4
ANALYTICAL RESULTS

Collected Date Time	Temp. °C	D.O. ppm %Sat.	Dis. cfs	B.O.D. 5 Day 20 °C at 25 °C	Alkalinity Phenol. M.O.	pH	Cl ⁻	Hard- ness	Color True	Tur- bidity	Coliform M.P.N.	Dis- sol- ved ppm	Solids	
													Sus- pen- ded ppm	Total ppm
STATION NO. 25 - Mile Mu. 3.7														
2-3 1030	18	4.7	39	2.4	632	19	3	11	30	25	24,000	35	30	65
5-13 1055	18	4.9	27	1.9	346	20	4	9	35	25	7,500	13	25	38
9-21 0925	19	3.4	30	2.6	527	22	2	11	40					
9-30 1050	20	3.5	20	4.8	648	27	3	25			240,000			
10-14 1500	20	4.8	27	3.0	547	24	3	28	35	25	91,000	24	28	52
Avg.	19	4.3	29	2.9	540	22	4	17	40	25	240,000	35	30	65
Max.	20	4.9	39	4.8	648	27	2	28	30	25	7,500	13	25	38
Min.	18	3.4	20	1.9	346	19	2	9						
STATION NO. 26 - Mile Mu. 1.7														
7-23 0815	23	5.3	80	1.9	1,025	10	3	14	35	95	430,000	64	76	140
7-30 0710	22	4.7	59	2.7	1,075	19	2	11	25	40	93,000	66	43	109
8-9 0620	22	5.1	54	3.3	1,200	20	3	11	18	45				
8-19 0910	23	4.0	46	2.5	776	22	3	12	28	15		50	18	68
9-21 0950	20	4.0	31	3.5	732	23	3	12	48	50	260,000	60	46	106
Avg.	22	4.6	54	2.8	962	19	3	14	31	95	430,000	66	76	140
Max.	23	5.3	80	3.5	1,075	23	2	11	48	15	93,000	50	18	68
Min.	20	4.0	31	1.9	732	10	2	11	18					

TABLE 4

ANALYTICAL RESULTS

Collected Date Time 1954	Temp. °C	B. O. D.		Dis. cfs	Alkalinity		pH	Cl ⁻	Hard- ness	Color True	Tur- bidity	Coliform M.P.N.	Dis- solved ppm	Solids	
		5 Day 20 °C	lbs./day at 25 °C		Phenol.	M.O.								Sus- pen- ded ppm	Total ppm
STATION NO. 27 -- Mile F.B. 167.4															
7-23 0830	23	3.6	13,700	563	27		6.8	3	17	60	20	43,000	122	32	154
7-30 0655	22	5.5	15,200	408	25		6.9	4	17	75	20	39,000	149	25	174
8-9 0610	22	3.9	10,300	392	26		6.9	4	19	40	15				
8-19 0900	23	3.8	9,500	371	24		6.8	5	18	70	30				
8-25 1200	24	5.5	13,400	362	25		6.8	6	16	80	45				
9-20 0830	22	9.5	15,600	244	34		6.7	7	23	130	25	41,000	206	16	222
Avg.	23	5.3	12,900	390	27			5	18	75	45	43,000	159	24	183
Max.	24	9.5	15,600	563	24		6.9	7	23	130	15	39,000	206	32	222
Min.	22	3.6	9,500	244	34		6.7	3	16	40	15		122	16	154
STATION NO. 28 -- Mile Ca. 2.4															
9-3 1055	19	0.4	38	14	21		7.0	2	15	26	50	7,500	46	18	64
9-13 1130	19	0.4	35	13	21		7.1	2	14	27	10	9,300			
Avg.	19	0.4	37	14	21			2	15	27	30	8,400			
Max.	19	0.4	38	14	21		7.1	2	15	27	50	9,300			
Min.	19	0.4	35	13	21		7.0	2	14	26	10	7,500			
STATION NO. 29 -- Mile F.B. 165.4															
7-23 0840	23	3.3	13,300	595	23		6.9	4	17	60	20	9,300	114	31	145
7-30 0640	22	5.2	15,400	440	23		6.8	5	18	75	20	150,000	141	22	163
8-9 0600	22	2.5	14,700	420	24		6.9	5	18	40	15				
8-19 0845	23	5.5*	>14,500*	390	28		6.9	6	19	65	35				
8-25 1210	25	6.4	17,700	410	29		7.1	4	15	75	70				
9-20 0815	21	8.2	14,400	260	36		6.7	8	24	120	30	80,000	218	16	234
Avg.	23	5.1	15,100	419	27			5	19	70	23	150,000	158	23	181
Max.	25	8.2	17,700	595	36		7.1	8	24	120	70	9,300	218		234
Min.	21	2.5	13,300	260	23		6.7	4	15	40	15		114		145

* Excluded from average.

TABLE 4
ANALYTICAL RESULTS

Collected Date Time 1954	Temp. °C	D.O.		Dis. cfs	B. O. D.		Alkalinity		pH	Cl ⁻	Hard- ness	Color True	Tur- bidity	Coliform M.P.N.	Dis- sol- ved ppm	Solids	
		ppm	%Sat.		5 Day 20 °C	lbs./day at 25 °C	Phenol.	M.O.								Sus- pen- ded ppm	Total ppm
STATION NO. 30 - Mile F.B. 160.6																	
7-23 0900	23	3.5	40	610	2.8	11,500	22	6.9	4	17	60	15	43,000	110	23	133	
7-30 0625	23	1.5	17	450	2.7	8,200	25	7.0	5	18	70	10	9,300	147	15	162	
8-9 0540	23	1.8	21	430	1.5	4,400	23	7.0	5	19	40	4					
8-19 1055	24	1.4	16	400	4.3	11,600	32	7.1	8	21	70	15					
8-25 1230	26	3.2	39	420	2.5	7,100	22	6.9	7	16	70	45					
9-1 0005	18	1.8	19	400	2.8	7,600	26	6.7	4	15	70	30	24,000	124	34	158	
9-1 0400	20	2.4	26	370	2.9	7,200	25	7.0	4	15	70	25	24,000	119	24	143	
9-1 0800	20	3.0	33	370	3.3	8,200	24	7.1	4	14	70	15	9,300	123	12	135	
9-1 1200	22	3.3	37	370	3.1	7,700	25	7.0	5	15	80	10	24,000	129	14	143	
9-1 1600	24	3.6	42	365	2.7	6,700	25	6.9	4	15	70	10	24,000	124	14	138	
9-1 2000	22	2.2	25	370	3.9	9,700	28	7.0	4	15	75	15	9,300	124	18	142	
9-1 2400	20	2.2	24	360	3.1	7,500	28	7.1	6	18	70	10	4,300	139	15	154	
9-7 0010	24	0.2	2	306	6.1	12,600	35	6.9	7	21	120	10	460,000	188	11	199	
9-7 0400	22	0.0	0	305	9.0	18,500	36	6.9	7	22	130	20	240,000	198	17	215	
9-7 0800	22	0.1	1	305	10	30,000	35	6.9	8	22	130	20	1,100,000	205	15	220	
9-7 1200	25	0.3	4	305	9.6	19,800	36	6.9	8	20	130	25	43,000	210	9	219	
9-7 1600	27	0.9	11	305	8.2	16,900	41	7.0	8	25	130	8	240,000	207	13	220	
9-7 2000	24	0.5	6	305	3.6	7,400	39	7.4	7	29	110	5	93,000	195	12	207	
9-7 2400	22	1.5	17	305	1.7	3,500	35	7.0	13	31	55	3	9,300	176	9	185	
9-21 1045	22	0.0	0	285	>6.5*	*20,600	37	7.0	10	25	170		2,400,000	230	12	242	
Avg.	23	1.7	19	367	4.9	10,800	30		6	20	90	15	280,000	162	16	178	
Max.	27	3.6	42	610	10	30,000	41	7.4	13	31	170	45	2,400,000	230	34	242	
Min.	18	0.0	0	285	1.5	3,500	22	6.7	4	14	55	3	4,300	110	9	133	

* Excluded from average.

TABLE 14

ANALYTICAL RESULTS

Collected Date Time	Temp. °C	D.O.		Dis. cfs	B. O. D.		Alkalinity Phenol. M.O.	pH	Cl ⁻	Hard- ness	Color True	Tur- bidity	Coliform M.P.N.	Dis- sol- ved ppm	Solids	
		ppm	%Sat.		5 Day 20 °C	lbs./day at 25 °C									Sus- pen- ded ppm	Total ppm
STATION NO. 31 ~ Mile F.B. 151.6																
7-23 1015	25	5.5	66	630	1.5	6,380	23	7.1	3	17	60	15	9,300	112	18	130
8-2 0755	23	4.7	54	630	2.5	10,600	26	7.3	6	18	50	60	4,300	123	42	165
8-10 1125	25	6.6	79	530	1.7	6,080	25	7.2	4	18	50	4	910	119	12	131
8-12 0055	23	5.3	61	470	1.4	4,440	21	6.9	4	14	70	3	1,500	95	8	113
8-12 0400	22	5.1	58	460	2.1	6,520	20	6.8	4	14	50	3	2,300	98	12	110
8-12 0845	22	5.4	61	450	1.4	4,260	21	6.9	4	16	55	3	300	117	13	130
8-12 1150	23	7.3	84	440	3.0	8,910	24	7.1	5	15	55	3	1,500	116	12	128
8-12 1635	22	6.6	75	440	1.6	4,750	22	7.0	4	13	50	3	730	114	11	125
8-12 1955	22	6.5	74	440	1.7	5,050	22	6.8	4	14	50	3	9,300	120	11	131
8-12 2355	22	5.6	63	440	1.5	4,460	22	7.0	5	14	55	3		97	14	111
8-19 1145	24	6.0	70	420	2.1	5,950	27	7.4	4	18	55	2		144	9	153
8-25 1330	27	5.0	62	500	6.2	20,900	27	7.1	10	17	40	55	46,000	138	26	164
9-21 1120	22	5.1	58	315	2.5	5,320	35	7.2	9	24	150		15,000	172	4	176
Avg.	23	5.7	67	474	2.2	7,200	24		5	16	60	13	8,300	120	15	135
Max.	27	7.3	84	630	6.2	20,900	35	7.4	10	24	150	60	46,000	172	42	176
Min.	22	4.7	54	315	1.4	4,260	20	6.8	3	13	40	2	300	95	4	110

TABLE 4
ANALYTICAL RESULTS

Collected Date Time 1954	Temp. °C	D.O. ppm	Dis. cfs	B. O. D.		Alkalinity Phenol. M.O.	pH	Cl ⁻	Hard- ness	Color True	Tur- bidity	Coliform M.P.N.	Dis- sol- ved ppm	Solids	
				5 Day 20 °C	lbs./day at 25 °C									Sus- pen- ded ppm	Total ppm
STATION NO. 32 - Mile Ho. 8.4															
7-26 0945	22	5.9	28	0.8	151	18	7.1	1	13	22	30	24,000	48	32	80
8-2 0710	20	7.3	33	1.2	267	17	7.1	1	11	40	150	23,000	58	107	165
8-10 1045	22	8.0	24	0.8	130	19	7.4	2	14	18	30		56	20	76
8-19 1115	22	7.9	23	1.2	186	18	7.2	2	13	18	25		57	22	80
8-25 1055	24	7.5	25	2.3	388	16	7.1	2	12	12	200		87	152	239
9-8 0010	20	6.9	15	1.0	101	19	7.0	2	13	27	25	93,000	51	30	81
9-8 0400	20	7.2	15	0.8	81	19	6.8	1	13	27	20	93,000	57	30	87
9-8 0800	19	7.5	15	1.4	142	19	7.5	1	14	22	20	93,000	53	26	79
9-8 1200	22	8.6	15	0.4	41	19	7.1	1	14	23	20	43,000	47	15	62
9-8 1600	24	8.5	15	0.6	61	18	7.1	1	12	24	10	93,000	45	8	53
9-8 2000	20	7.2	15	0.6	61	18	6.7	1	12	26	15	9,300	63	16	79
9-8 2355	20	7.1	15	0.8	81	18	7.1	2	13	31	20	43,000	60	30	90
9-21 1115	20	8.0	23	1.2	186	19	7.1	1	13	31	45	9,300	46	25	71
Avg.	21	7.5	20	1.0	144	18	7.1	1	13	25	200	52,000	56	39	95
Max.	24	8.6	28	2.3	388	19	7.4	2	14	40	10	93,000	87	152	239
Min.	19	5.9	15	0.6	41	16	6.7	1	11	12		9,300	45	8	53

TABLE 4

ANALYTICAL RESULTS

Collected Date Time 1954	Temp. °C	D.O. ppm %Sat.	Dis. cfs	B. O. D. 5 Day lbs./day 20 °C at 25°C	Alkalinity Phenol. M.O.	Acidity Phenol. M.O.	pH
STATION NO. 33 - Mile Ho. 6.7							
7-26 0955	30	0.0	29	4,480		33	3.9
8-2 0720	24	4.8	50	4,050		33	3.9
8-10 1055	27	3.1	27	7,330	85		10.1
8-19 1125	30	1.6	26	5,700	99		10.4
8-25 1025	30	2.1	28	7,320	18		6.8
9-8 0010	30	2.4	28	3,780	64	22	3.4
9-8 0405	29	2.5	27	4,430	55	14	3.5
9-8 0755	28	2.8	30	2,930	212	120	2.6
9-8 1200	30	1.0	30	6,500	52	13	3.7
9-8 1600	31	1.3	29	7,830	31		7.4
9-8 2010	30	2.7	30	5,610	32		7.0
9-8 2355	30	2.2	28	7,070	20		6.6
9-21 1130	28	4.0	24	3,580	51	4	4.0
avg.	29	2.3	30	5,440	48	30	
Max.	31	4.8	50	7,800	53	120	10.4
Min.	24	0.0	24	3,580	46	33	2.6

TABLE 4
ANALYTICAL RESULTS

Collected Date Time 1954	Cl ⁻	Hardness	Color True	Turbidity	Coliform M.P.N.	Solids		
						Dissolved ppm	Suspended ppm	Total ppm
STATION NO. 33 - Mile Ho. 6.7 (continued)								
7-26 0955	29	64	15	110	24,000	602	62	664
8-2 0720	3	64	12	160	43,000	417	106	523
8-10 1055	4	42	8	100		871	95	966
8-19 1125	15	35	12	110		856	95	951
8-25 1025	19	50	32	160		749	148	897
9-8 0010	20	82	42	60	0	857	24	881
9-8 0405	28	84	30	85	1,500	760	28	788
9-8 0755	22	134	26	50	0	1,100	24	1,124
9-8 1200	20	84	29	80	9,300	895	31	926
9-8 1600	41	64	17	100	730	997	59	1,056
9-8 2010	21	74	17	75	0	912	49	961
9-8 2355	23	62	50	45	46,000	900	33	933
9-21 1130	16	74	30		9,300	655	158	813
Ave.	20	70	25	95	13,000	813	70	883
Max.	41	134	50	160	46,000	1,100	158	1,124
Min.	3	35	8	45	0	417	24	523

TABLE 4

ANALYTICAL RESULTS

Collected Date Time 1954	Temp. °C	D.O. ppm %Sat.	Dis. cfs	B. O. D.		Alkalinity Phenol. M.O.	Acidity Phenol. M.O.	pH
				5 Day 20 °C	lbs./day at 25°C			
STATION NO. 34 - Mile Ho. 0.9								
7-26 1005	26	7.3	37	35	8,720	45	13	10.1
8-2 0735	24	5.5	36	7.2	1,750	94	4	4.1
8-10 1110	25	2.6	35	11	2,550		17	3.6
8-19 1155	26	1.0	33	35	7,730			9.3
8-25 1030	26	4.1	31	15	3,070			5.7
9-8 0015	26	1.8	30	25	5,020			7.2
9-8 0400	24	1.6	32	16	3,420		48	4.0
9-8 0815	24	1.5	33	18	3,970		46	3.8
9-8 1205	27	1.3	33	16	3,560		36	4.3
9-8 1600	27	1.1	32	18	3,800		55	3.6
9-8 2010	27	1.0	31	15	3,100		78	3.3
9-8 2350	25	1.5	33	9.7	2,160		111	3.0
9-21 1145	24	4.2	25	31	5,160	15	48	6.9
Avg.	25	2.7	32	19	4,150	26	56	10.1
Max.	27	7.3	37	35	8,720	45	111	3.0
Min.	24	1.0	25	7.2	1,750	13	13	

TABLE 4
ANALYTICAL RESULTS

ANALYTICAL RESULTS									
Collected Date Time 1954	Cl ⁻	Hardness	Color True	Turbidity	Coliform M.P.N.	Solids			Total ppm
						Dissolved ppm	Suspended ppm		
STATION NO. 34 .. Mile Ho ₂ O ₂ 2 (continued)									
7-26 1005	1	37	42	35	43,000	754	33	787	
8-2 0735	7	50	12	175	93,000	395	138	533	
8-10 1110	11	179	4	2		47	10	56	
8-19 1155	16	18	30	25		781	23	804	
8-25 1030	9	36	80	1,075		369	668	1,037	
9-8 0015	18	56	30	50	15,000	848	25	873	
9-8 0400	20	86	24	35	43,000	912	15	927	
9-8 0815	16	81	25	50	930,000	824	24	848	
9-8 1205	20	72	24	45	93,000	821	16	837	
9-8 1600	19	80	21	45	93,000	762	20	782	
9-8 2010	24	98	19	8	240,000	919	10	929	
9-8 2350	20	106	16	8		925	5	930	
9-21 1145	19	74	75		930,000	889	43	932	
Avg.	15	75	31	130	280,000	711	79	790	
Max.	24	179	75	1,075	930,000	925	668	1,037	
Min.	1	18	4	2	15,000	47	5	56	

TABLE 4

ANALYTICAL RESULTS

Collected Date Time 1954	Temp. °C	D.O.		Dis, cfs	B. O. D.		Alkalinity Phenol. N.O.	pH	Cl	Hardness	Color True	Turbidity	Coliform M.P.N.	Dis-solved ppm	Suspended ppm	Total ppm
		ppm	%Sat.		5 Day 20 °C	lbs./day at 25 °C										
STATION NO. 35 - Mile Sw. 4.3																
7-26 1030	24	6.8	80	28	1.3	246	15	7.2	2	11	16	4	93,000	49	14	63
8-2 0840	22	7.7	87	34	1.9	436	15	7.0	3	14	24	150	43,000	55	93	148
8-10 1205	24	7.3	86	37	1.9	475	18	8.2	3	12	28	260				
8-20 1120	25	7.4	88	17	1.3	149	16	6.8	4		37	330				
8-25 1300	28	7.0	88	36	2.0	486	13	6.9	3		28	430				
9-21 1210	22	8.6	97	22	1.1	163	17	7.0	1	12	26		3,600	92	32	124
Avg.	24	7.5	88	29	1.6	326	16		3	12	27	230	57,000	65	46	111
Max.	28	8.6	97	37	2.0	486	18	8.2	4	14	37	430	93,000	92	93	148
Min.	22	6.8	80	17	1.1	149	13	6.8	1	11	16	4	36,000	49	14	63
STATION NO. 36 - Mile Sw. 3.2																
8-2 0830	22	6.3	71	30	1.6	324	15	7.1	3	12	26	180	43,000	62	106	168
8-10 1155	24	7.3	86	33	>7.0*	>1560*	15	6.8	4	12	30	240				
8-21 1250	21	8.0	89	18	11	1410	16	6.8	3	14	28		23,000	67	33	100
Avg.	22	7.2	82	27	6.3	867	15		3	12	28	210	33,000	64	70	134
Max.	24	8.0	89	33	11	>1560	16	7.1	4	14	30	240	43,000	67	106	168
Min.	21	6.3	71	18	1.6	324	15	6.8	3	12	26	180	23,000	62	33	100
STATION NO. 37 - Mile Sw. 0.7																
7-26 1040	24	6.6	77	26	2.8	491	18	7.2	2	14	16	6	210,000	51	15	66
8-2 0810	22	6.7	76	32	2.9	626	14	7.1	4	16	40	140	43,000	66	85	151
8-10 1135	25	5.5	67	36	>6.1*	>1480*	21	6.8	3	15	32	260				
8-20 1100	24	3.1	36	14	12	1090	30	6.8	6		37	30				
8-25 1315	26	5.7	69	35	11	2600	21	6.8	4		28	110				
9-21 1225	21	2.4	27	20	9.8	1320	27	6.8		22	50		930,000	52	60	112
Avg.	24	5.0	59	27	7.7	1230	22		4	17	34	110	394,000	56	53	109
Max.	26	6.7	77	36	12	2600	30	7.2	6	22	50	260	930,000	66	85	151
Min.	21	2.4	27	14	2.8	491	14	6.8	2	14	16	6	43,000	51	15	66

* Excluded from average.

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TABLE 4
ANALYTICAL RESULTS

Collected Date Time 1954	Temp. °C	D.O. ppm %Sat.	Dis. cfs	B. O. D.		Alkalinity Phenol. M.O.	pH	Cl ⁻	Hard- ness	Color True	Tur- bidity	Coliform M.P.N.	Dis- solved ppm	Solids	
				5 Day 20 °C	Day at 25 °C									Sus- pen- ded ppm	Total ppm
STATION NO. 37A - Mile F.B. 145.8															
9-7 0030	24	1.0	374	3.6	9,100	31	6.9	12	26	100	12	93,000	217	19	236
9-7 0400	24	1.4	374	3.0	7,600	30	6.8	12	27	110	5	240,000	212	17	229
9-7 0800	22	2.2	374	2.5	6,100	30	6.8	11	27	95	5	93,000	220	11	231
9-7 1225	26	2.3	382	2.9	7,500	32	6.9	10	25	100	5	93,000	222	14	236
9-7 1620	28	0.0	382	5.1	13,200	38	7.0	11	26	110	10	750,000	234	19	253
9-7 2030	26	0.0	374	7.8	19,700	40	7.1	12	26	120	10	460,000	269	20	289
9-8 0200	25	0.0	374	7.9	19,900	42	6.8	12	25	110	12	2,400,000	262	20	282
avg.	25	1.0	376	4.7	11,900	35		11	26	110	8	590,000	234	17	251
Max.	28	2.3	382	7.9	19,900	42	7.1	12	27	120	12	2,400,000	269		289
Min.	22	0.0	374	2.5	6,100	30	6.8	10	25	95	5	93,000	212		229
STATION NO. 38 - Mile Re. 0.1															
9-3 1110	20	4.4		>13*		71	7.2	19	52	36	45	9,300,000		692	782
9-10 0940	20	5.3		88		53	7.1	14	54	60	450	9,300,000	90	34	166
9-15 0955	18	5.6		22		73	7.3	16	53	30	35		132		
10-13 1215	22	4.9		>29*		78	7.3	16	120			24,000,000			
avg.	20	5.0		55		69		16	70	40	170	1,420,000	111	363	474
Max.	22	5.6		88		78	7.3	19	120	60	450	24,000,000	132	692	782
Min.	18	4.4		22		53	7.1	14	52	30	35	9,300,000	90	34	166

** Excluded from average.

TABLE 4

ANALYTICAL RESULTS

Collected Date Time 1954	Temp. °C	B. O. D.		Dis. cfs	Alkalinity Phenol. M.O.	pH	CL ⁻	Hard- ness	Color True	Tur- bidity	Coliform M.P.N.	Dis- sol- ved ppm	Solids	
		5 Day 20 °C	lbs./day at 25 °C										Sus- pen- ded ppm	Total ppm
STATION NO. 39 - Mile F.B. 143.1														
7-26 0905	26	1.9	7,180	560	23	7.3	5	19	80	3	9,300	144	154	
8-2 0625	24	2.6	13,500	770	22	7.0	7	25	50	100	240,000	182	248	
8-10 1020	24	2.8	11,200	590	19	6.9	8	38	45	4		166	179	
8-20 1030	26	2.5	7,760	460	37	7.2	7	20	60	4		238	246	
8-25 1005	25	3.3	17,800	800	20	6.9	5	18	80	150	43,000	173	249	
9-1 0105	22	2.9	11,600	590	26	7.0	6	17	70	20	240,000	145	165	
9-1 0430	20	3.9	12,600	480	27	6.8	6	17	75	25	240,000	156	177	
9-1 0800	20	2.6	8,250	470	26	7.0	7	18	75	10	43,000	155	175	
9-1 1300	24	2.7	10,200	560	26	7.1	6	17	75	15	93,000	151	164	
9-1 1640	25	3.0	10,900	540	26	7.0	7	18	70	10	93,000	162	174	
9-1 2025	22	4.5	16,100	530	28	7.1	8	20	70	15	24,000	152	167	
9-2 0030	22	3.1	10,900	520	27	7.0	7	19	70	15	43,000	148	163	
9-21 1030	22	5.2	12,600	360	44	7.1	13	25	150	30	24,000	260	277	
Avg.	23	3.2	11,600	556	27		7	21	75	150	99,000	172	196	
Max.	26	5.2	17,800	800	44	7.3	13	38	150	150	240,000	260	277	
Min.	20	1.9	7,180	360	19	6.8	5	17	45	3	9,300	144	154	
STATION NO. 40 - Mile Be. 1.5														
9-3 1040	20	0.8			38	7.2	5	38	17	1	9,300	126	740	
9-10 0905	22	12			28	7.1	8	32	75	520	240,000	72	81	
9-15 0905	17	2.3			41	7.3	2	33	24	1	9,300			
10-13 1000	20	1.8			34	6.8	4	34	110		24,000			
Avg.	20	4.2			38		5	34	57	175	61,000	99	442	
Max.	22	12			41	7.3	8	38	110	520	240,000	126	740	
Min.	17	0.8			28	6.8	2	32	17	1	9,300	72	81	

TABLE 4
ANALYTICAL RESULTS

Collected Date Time 1954	Temp. °C	B. O. D.		Dis. cfs	D.O. ppm %Sat.	5 Day 20 °C	lbs./day at 25° C	Alkalinity Phenol. M.O.	pH	Cl ⁻	Hard- ness	Color True	Tur- bid- ity	Coliform M.P.N.	Dis- sol- ved ppm	Solids	
		Day 20 °C	at 25° C													Sus- pen- ded ppm	Total ppm
STATION NO. 41 - Mile Re. 0.3																	
9-3 1055	20	0.3	3	68		81	6.9	12			27	50	150	24,000,000		1136	1152
9-10 0920	21	0.0	0	>231*		60	6.7	6			26	55	800	24,000,000	16	6	83
9-15 0925	18	5.3	56	1.1		42	7.3	2			27	35	1	230,000	77		
10-13 1150	20	5.9	64	2.8		47	7.2	8			46			24,000			
Avg.	20	2.9	31	24		58		7			32	46	500	12,000,000	47	571	618
Max.	20	5.9	64	>231		81	7.3	12			46	55	800	24,000,000	77	1136	1152
Min.	18	0.0	0	1.1		42	6.7	2			27	35	150	24,000	16	6	83
STATION NO. 42 - Mile Re. 4.4																	
8-3 1115	24	7.6	88	0.8		24	7.4	2			17	22	8	9,300	58	17	75
8-4 1050	22	7.8	88	0.7		26	7.3	2			18	25	8	43,000	40	44	84
8-10 0945	21	7.5	83	2.4		22	7.3	3			20	30	330				
8-20 1005	22	7.8	88	0.5		26	7.2	2			18	26	115	26,000	49	30	79
Avg.	22	7.7	87	1.1		25					20	30	330	43,000	58	44	84
Max.	24	7.8	88	2.4		26	7.4	3			17	22	8	9,300	40	17	75
Min.	21	7.5	83	0.5		22	7.2	2									
STATION NO. 43 - Mile Re. 2.3																	
8-3 1145	24	7.9	93	1.5		27	7.3	3			20	22	47	240,000	73	40	113
8-4 1035	22	7.9	93	0.8		27	7.5	3			21	25	37	15,000	54	61	115
8-10 0940	20	7.6	83	1.1		22	7.2	3			16	25	120				
8-20 0955	22	8.1	92	0.9		28	7.4	3			19	24	70	12,800	64	50	114
Avg.	22	7.8	90	1.1		26					21	25	120	240,000	73	61	115
Max.	24	8.1	93	1.5		28	7.5	3			16	22	37	15,000	54	40	113
Min.	20	7.6	83	0.8		22	7.2	3									

* Excluded from average.

ANALYTICAL RESULTS

Collected Date Time 1954	Temp. °C	D.O.		Dis. cfs	B. O. D.		Alkalinity Phenol. M.O.	pH	Cl ⁻	Hard- ness	Color True	Tur- bid- ity	Coliform M.P.N.	Dis- sol- ved ppm	Solids	
		ppm	%Sat.		5 Day 20 °C	lbs./day at 25 °C									Sus- pen- ded ppm	Total ppm
STATION NO. 44 - Mile F.B. 136.4																
7-26 0700	25	8.4	100	630	2.8	11,900	23	7.2	6	21	80	6	24,000	144	158	
8-3 1000	25	7.1	85	670	4.2	19,000	27	7.3	6	22	60	45	43,000	149	187	
8-10 0920	24	7.2	84	640	2.6	11,200	24	7.4	6	19	60	90				
8-12 0005	23	7.0	81	600	1.9	7,700	28	7.0	7	19	60	6	24,000	157	175	
8-12 0450	22	7.1	79	570	1.9	7,300	26	7.1	7	19	60	6	9,300	147	165	
8-12 0800	22	7.5	85	560	2.3	8,700	28	7.2	7	21	60	6	46,000	179	196	
8-12 1230	24	7.6	89	550	3.3	12,300	27	7.0	8	21	60	6	46,000	169	184	
8-12 1000	24	7.4	87	540	2.8	10,200	27	7.2	8	23	60	6	4,300	164	177	
8-12 2035	22	7.3	83	540	2.2	8,020	28	7.0	8	19	60	6	24,000	162	174	
8-13 0030	22	7.4	84	530	2.0	7,160	27	7.2	12	20	60	6	46,000	126	144	
8-20 0940	25	7.3	87	500	2.2	7,430	30	7.4								
8-25 0945	25	6.9	82	940	3.5	22,200	22	7.1								
9-21 1015	22	7.6	86	350	2.7	6,380	28	7.2	9	26	140		23,000	216	250	
Avg.	23	7.4	86	586	2.6	10,700	27		8	21	70	18	29,000	161	181	
Max.	25	8.4	100	940	4.2	22,200	30	7.4	12	26	140	90	46,000	216	250	
Min.	22	6.9	79	350	1.9	6,380	22	7.0	6	19	60	6	4,300	126	144	
STATION NO. 45 - Mile Tu. 3.9																
9-3 0630	15	8.7	86	4	0.5	14	30	6.8	1	22	23	45	9,300	60	76	
9-13 0710	14	8.9	86	3	0.6	12	31	6.9	2	23	21	20	930			
STATION NO. 46 - Mile Sm. 1.3																
9-3 0700	15	8.7	86	5	0.8	27	33	7.1	1	24	21	45	9,300	57	75	
9-13 0640	15	8.8	87	4	0.5	14	34	7.3	1	24	23	20	4,300			

TABLE 4
ANALYTICAL RESULTS

Collected Date Time 1954	Temp. °C	D.O.		Dis. cfs	B. O. D.		Alkalinity Phenol. M.O.	pH	Cl ⁻	Hard- ness	Color True	Tur- bidity	Coliform M.P.N.	Dis- solved ppm	Solids Sus- pen- ded ppm	Total ppm
		ppm	%Sat.		5 Day 20 °C	lbs./day at 25 °C										
STATION NO. 47 - Mile Ga. 5.0																
9-3 1000	17	8.4	86	0.3	0.7	1.4	34	7.2	1	25	17	25	4,300			
9-13 0900	15	8.8	87	0.2	1.4	1.9	37	7.2	2	27	16	10	29,000	70	28	98
10-13 1045	20	9.3	101	0.2	0.1	1.4	39	7.4	1	42			4,300			
STATION NO. 48 - Mile Ga. 3.5																
9-3 0945	19	7.9	84	0.6	12	49	31	7.1	3	26	25	25	930,000			
9-13 0830	16	6.3	63	0.5	9.4	32	45	7.2	4	27	23	15	930,000	66	37	103
10-13 1100	22	6.9	78	0.4	>9.2*	>25*	47	7.4	5	43			2,400,000			
Avg.	19	7.0	75	0.5	11	41	41		4	32	24	20	1,400,000			
Max.	22	7.9	84	0.6	12	49	47	7.4	5	43	25	25	2,400,000	66	37	103
Min.	16	6.3	63	0.4	9.4	32	31	7.1	3	26	23	15	930,000			
STATION NO. 49 - Mile Ivy 2.1																
9-3 0910	18	8.2	86	20	1.3	176	32	7.0	2	25	24	240	24,000			
9-13 0750	16	8.6	86	18	0.7	85	36	7.2	2	26	30	130	4,300	53	137	190
STATION NO. 50 - Mile F.B. 125.2																
7-26 0715	26	7.9	96	700	1.8	8,500	25	7.3	5	20	80	40	4,300	135	38	173
8-3 0910	25	7.4	88	810	2.4	13,100	21	7.3	5	22	60	170	15,000	133	134	267
8-10 0845	24	6.9	81	670	1.9	8,590	24	7.2	5	20	80	800				
8-20 0900	25	7.3	87	520	2.0	7,020	35	7.4								
8-25 0910	26	6.9	84	990	2.6	17,400	28	7.1					9,300			
9-21 0930	22	7.4	84	420	2.2	6,250	35	7.2	8	25	140		4,300	184	128	312
Avg.	25	7.3	87	685	2.2	10,100	28		6	22	90	340	8,200	151	100	251
Max.	26	7.9	96	990	2.6	17,400	35	7.4	8	25	140	800	15,000		134	312
Min.	22	6.9	81	420	1.8	6,250	21	7.1	5	20	60	40	4,300		38	173

* Excluded from average.

TABLE 4

ANALYTICAL RESULTS

Collected Date Time 1954	Temp. °C	D.O. ppm %Sat.	Dis. cfs	B.O.D. 5 Day 20 °C at 25 °C	Alkalinity Phenol. L.O.	pH	Cl ⁻	Hard- ness	Color True	Tur- bidity	Coliform M.P.N.	Solids	
												Dis- solved ppm	Sus- pen- ded ppm
STATION NO. 51 - Mile F.B. 122.9													
8-20 1515	26	6.7	520	1.9	6,670	34	7.3	8	60	40	9,300		
8-25 0850	26	6.0	1,050	1.9	13,500	25	7.1	8	75	85	2,300		
9-21 0900	23	6.3	420	2.5	7,090	40	7.3	10	140		9,300	224	38
AVG.	25	6.3	663	2.1	9,090	33		9	90	60	7,000		
Max.	26	6.7	1,050	2.5	13,500	40	7.3	10	140	85	9,300		
Min.	23	6.0	420	1.9	6,670	25	7.1	8	60	40	2,300		
STATION NO. 52 - Mile B.L. 4.0													
9-3 0820	16	8.8	37	0.7	175	22	7.1	1	16	4	4,600		
STATION NO. 53 - Mile F.B. 108.8													
7-26 0800	26	3.9	750	1.4	7,090	23	7.3	6	75	65	4,300	137	46
8-3 0710	24	7.3	890	1.6	9,610	22	7.3	5	55	450	24,000	162	258
8-10 0750	24	7.2	730	1.3	6,410	26	7.3	6	60	95			
8-20 0820	24	7.5	590	1.1	4,380	23	7.1						
8-25 0800	26	7.4	1,200	1.6	13,000	21	7.2						
9-21 0800	22	7.7	600	1.8	7,290	40	7.4	9	140		4,300	191	60
AVG.	24	6.8	793	1.5	7,960	26		7	80	200	11,000		
Max.	26	7.7	1,200	1.8	13,000	40	7.4	9	140	450	24,000		
Min.	22	3.9	590	1.1	4,380	21	7.1	5	55	65	4,300		

TABLE 4
ANALYTICAL RESULTS

Collected Date Time 1954	Temp. °C	D.O.		Dis. cfs	B. O. D.		Alkalinity Phenol. M.O.	pH	Cl ⁻	Hard- ness	Color True	Tur- bidity	Coliform M.P.N.	Solids		
		ppm	%Sat.		5 Day 20 °C	lbs./day at 25° C								Dis- sol- ved ppm	Sus- pen- ded ppm	Total ppm
STATION NO. 54 - Mile Sp. 0.6																
8-3 0735	22	7.9	89	20	0.4		20	7.5	2	14	16	25	2,400	50	21	71
8-4 0845	22	8.1	92	14	0.8		24	7.6	2	16	15	25	4,300	52	22	74
8-10 0720	22	7.9	89	15	0.7		25	7.3	0	14	15	25				
8-20 0740	22	8.1	92	12	0.7		22	7.4								
Avg.	22	8.0	90	15	0.7		23		2	15	15	25	3,400	51	22	73
Max.	22	8.1	92	20	0.8		25	7.6	2	16	16	25	4,300	52	22	74
Min.	22	7.9	89	12	0.4		22	7.3	0	14	15	25	2,400	50	21	71
STATION NO. 55 - Mile Sp. 0.1																
8-3 0720	22	7.6	86	22	0.9		20	7.4	1	16	20	35	46,000	48	34	82
8-4 0910	22	7.9	89	16	1.9		21	7.3	1	17	20	35	240,000	46	30	76
8-10 0740	22	7.7	87	17	0.9		22	7.2	0	16	14	25				
8-20 0800	22	7.5	85	14	1.1		22	7.0								
Avg.	22	7.7	87	17	1.2		21		1	16	18	30	143,000	47	32	79
Max.	22	7.9	89	22	1.9		22	7.4	1	17	20	35	240,000	48	34	82
Min.	22	7.5	85	14	0.9		20	7.0	0	16	14	25	46,000	46	30	76
STATION NO. 56 - Mile Sp. 96.2																
8-3 0805	25	7.0	84		2.3		22	7.4	5	23	65	550	4,300	156	336	492
8-10 0650	22	7.0	79		1.2		31	7.3	8	24	60	55				
8-20 0715	24	7.1	83		2.0		25	7.1	6	24	40	35	15,000			
8-25 0720	26	7.0	85		1.6		23	7.2	5	20	75	350				
Avg.	24	7.0	83		1.8		25		6	23	60	250	9,600			
Max.	26	7.1	85		2.3		31	7.4	8	24	75	550	15,000			
Min.	22	7.0	79		1.2		22	7.1	5	20	40	35	4,300			

EXPLANATION OF TABLE 5, RECOMMENDED CLASSIFICATIONS

The tentatively recommended classifications of the surface waters in the French Broad Drainage Area of the French Broad River Basin are given in Table 5, pages 86 - 128. These recommendations are considered to represent the best usages of the streams in the interest of the public, and are submitted to all concerned for consideration at the Public Hearing, and the State Stream Sanitation Committee in its determination of the final classifications to be assigned.

Any stream not named in Table 5 carries the same classification as the segment of the stream to which it is tributary.

Key to Abbreviations Used in Table

Agri.	Agriculture
F	Farm Land
FWP	Fish & Wildlife Propagation
N	Natural
NF	National Forest
P	Polluted
Rec.	Recreation
Res.	Residential
W	Woodland
WF	Woodland & Farm Land
WS	Water Supply

Brief Explanation of Water Classifications

- A-I Water supply from uninhabited watersheds requiring only approved disinfection.
- A-II Water supply with approved complete treatment.
- B Bathing and recreation.
- C Fishing.
- D Agricultural, including irrigation and livestock watering and industrial cooling and process water supply.
- E Navigation and the disposal of sewage, industrial wastes or other wastes.

TABLE 5
RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
I. French Broad River from source to mouth of Davidson River.	WF	P	Fishing	Fishing	C	Pollution from Toxaway Tanning Co. and Brevard.
A. West Fork French Broad River	WF	N	Fishing	Fishing	C	Designated trout stream.
1. Mill Branch	WF	N	Fishing	Fishing	C	
2. Laurel Branch	WF	N	Fishing	Fishing	C	
3. Parker Creek	WF	N	Fishing	Fishing	C	
a. Double Branch	WF	N	Fishing	Fishing	C	
b. Brown Creek	WF	N	Fishing	Fishing	C	
c. Miser Creek	WF	N	Fishing	Fishing	C	
4. Beasley Creek	WF	N	Fishing	Fishing	C	
5. Jerry Branch	WF	N	Fishing	Fishing	C	
6. Richland Creek	WF	N	Fishing	Fishing	C	
7. Flat Creek	WF	N	Agri.	Fishing	C	
a. North Fork	WF	N	Agri.	Fishing	C	
b. South Fork	WF	N	Agri.	Fishing	C	
8. Frozen Creek	WF	N	Agri.	Fishing	C	
9. Woodruff Branch	W	N	Agri.	Fishing	C	
10. Schoolpath Branch	WF	N	Agri.	Fishing	C	
B. North Fork French Broad River	WF	N	Fishing	Fishing	C	
1. Court House Creek	WF	N	Fishing	Fishing	C	

TABLE 5

RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
a. Chestnut Creek	WF	N	Fishing	Fishing	C	
b. Mill Station Creek	WF	N	Fishing	Fishing	C	
c. Klesee Creek	WF	N	Fishing	Fishing	C	
d. Bee Tree Fork	WF	N	Fishing	Fishing	C	
2. Indian Creek	WF	N	Fishing	Fishing	C	
3. Gaylors Branch	WF	N	Agri.	Fishing	C	
4. Shoal Creek	WF	N	Fishing	Fishing	C	
a. Bart Branch	WF	N	Agri.	Fishing	C	
b. Marion Branch	WF	N	Agri.	Fishing	C	
5. Laurel Branch	W	N	Fishing	Fishing	C	
6. Tucker Creek	WF	N	Agri.	Fishing	C	
a. North Fork	WF	N	Agri.	Fishing	C	
b. Johnnies Creek	WF	N	Agri.	Fishing	C	
7. Jason Branch	W	N	Fishing	Fishing	C	
8. Lamance Creek	WF	N	Fishing	Fishing	C	
9. Big Mountain Branch	W	N	Fishing	Fishing	C	
10. Long Branch	W	N	Fishing	Fishing	C	
11. Big Bearwalow Creek	W	N	Fishing	Fishing	C	
a. Little Bearwalow	W	N	Fishing	Fishing	C	
12. Diamond Creek	W	N	Fishing	Fishing	C	
a. Bynum Creek	W	N	Fishing	Fishing	C	

TABLE 5
RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
C. Browns Mill Creek	WF	N	Agri.	Fishing	C	
1. Blue Ridge Branch	WF	N	Agri.	Fishing	C	
D. Middle Fork French Broad River	WF	N	Fishing	Fishing	C	Designated trout stream.
1. Shoal Creek	WF	N	Fishing	Fishing	C	Designated trout stream.
2. Claypole Branch	WF	N	Fishing	Fishing	C	
E. East Fork French Broad River	WF	N	Agri.	Fishing	C	
1. Hickory Flat Creek	W	N	Fishing	Fishing	C	
2. Big Branch	WF	N	Agri.	Fishing	C	
3. Bursted Rock Creek	W	N	Fishing	Fishing	C	
4. Cold Mountain Branch	WF	N	Agri.	Fishing	C	
5. Bradley Creek	W	N	Fishing	Fishing	C	
6. Laurel Branch	W	N	Fishing	Fishing	C	
7. Gladly Fork	W	N	Fishing	Fishing	C	
a. South Prong	W	N	Fishing	Fishing	C	
b. West Prong	W.	N	Fishing	Fishing	C	
(1) Sal Tom Creek	W	N	Fishing	Fishing	C	
c. Garren Branch	W	N	Fishing	Fishing	C	
8. Upper Creek	WF	N	Agri.	Fishing	C	
9. Middle Creek	WF	N	Agri.	Fishing	C	
10. Lower Creek	WF	N	Agri.	Fishing	C	
11. Mountain Tea Branch	W	N	Agri.	Agri.	D	

TABLE 5

RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
12. Buffeys Branch	W	N	Agri.	Agri.	D	
13. Gerren Creek	WF	N	Agri.	Agri.	D	
14. Joshua Branch	W	N	Agri.	Agri.	D	
F. Galloway Creek	WF	N	Agri.	Agri.	D	
G. Mill Creek	WF	N	Agri.	Agri.	D	
H. Peter Weaver Creek	WF	N	Agri.	Agri.	D	
I. Morgan Mill Creek	WF	N	Bathing	Bathing	B	
a. Crow Branch	WF	N	Agri.	Agri.	D	
L. Cherryfield Creek	WF	N	Agri.	Agri.	D	
1. Sawmill Creek	WF	N	Agri.	Agri.	D	
a. Beasley Branch	WF	N	Agri.	Agri.	D	
2. Mason Creek	WF	N	Agri.	Agri.	D	
J. Paxton Creek	WF	N	Agri.	Agri.	D	
K. Kelly Branch	WF	N	Agri.	Agri.	D	
L. Patterson Creek	WF	N	Agri.	Agri.	D	
M. Limekiln Branch	WF	N	Agri.	Agri.	D	
N. Catheys Creek	WF	N	Agri.	Agri.	D	
1. Dunns Creek	W	N	Agri.	Agri.	D	
2. Glady Fork	W	N	Agri.	Agri.	D	
3. Brushy Ridge Branch	W	N	Agri.	Agri.	D	
4. Tarkiln Branch	W	N	Agri.	Agri.	D	

TABLE 5

RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
5. Cedar Rock Creek	W	N	Agri.	Agri.	D	
6. Cedar Rock Creek	W	N	Agri.	Agri.	D	
7. Kayle Branch	W	N	Agri.	Agri.	D	
8. Negro Prong	W	N	Agri.	Agri.	D	
a. Little Tarkiln Branch	W	N	Agri.	Agri.	D	
9. Kuykendall Creek	WF	N	Agri.	Agri.	D	
a. Hickory Mill Branch	W	N	Agri.	Agri.	D	
b. Indian Camp Branch	W	N	Agri.	Agri.	D	
c. Matheys Branch	WF	N	Agri.	Agri.	D	
d. Spanish Oak Branch	WF	N	Agri.	Agri.	D	
(1) Gladly Branch	WF	N	Agri.	Agri.	D	
10. Wilson Mill Creek	WF	N	Agri.	Agri.	D	
O. Cantrell Creek	WF	N	Agri.	Agri.	D	
P. Aiken Mill Creek	WF	N	Agri.	Agri.	D	
Q. Carson Creek	WF	N	Bathing	Bathing	B	Camp Gay Valley
1. Batson Creek	WF	N	Bathing	Bathing	B	
R. Dunn Creek	WF	N	Agri.	Agri.	D	
S. Rockbrook Camp Branch above Lake	WF	N	Water Supply	Water Supply	A-I	Camp Rockbrook
Rockbrook Camp Branch below water supply.	WF	N	Swimming	Swimming	B	
T. Haurty Branch	WF	N	Agri.	Agri.	D	

TABLE 5

RECOMMENDED CLASSIFICATIONS

FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
U. Camp Illahee Branch	WF	N	Swimming	Swimming	B	Camp Illahee
V. Camp Deerwoode Branch	WF	N	Swimming	Swimming	B	Camp Deerwoode
W. Hogsed Creek	WF	N	Agri.	Agri.	D	
1. Phillips Creek	WF	N	Agri.	Agri.	D	
X. Nicholson Creek	WF	P	Agri.	Agri.	D	
1. Graham Creek	WF	N	Bathing	Bathing	B	Sega Lake
a. Brackens Creek	WF	N	Agri.	Agri.	D	
b. Keystone Camp Branch above water supply intake.	W	N	Water Supply	Water Supply	A-I	Camp Keystone water supply
c. Keystone Camp Branch below water supply intake.	W	N	Swimming	Swimming	B	
2. Tucker Creek above Transylvania Tanning Co.	Res.	N	Industrial Water Supply	Industrial Water Supply	D	
Tucker Creek below Transylvania Tanning Co.	Res.	P		Agri.	D	
a. Norton Creek above Brevard water supply intake.	W	N	Water Supply	Water Supply	A-I	
b. Norton Creek below water supply.	Res.	N	Bathing	Bathing	B	Transylvania Music Camp
c. Hurts Branch	WF	N	Agri.	Agri.	D	
Y. Catechee Branch	WF	N	Bathing	Bathing	B	Camp Catechee
Z. King Creek above Brevard water supply.	W	N	Water Supply	Water Supply	A-I	
1. Fawn Branch	W	N	Water Supply	Water Supply	A-I	

TABLE 5
RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
2. Mine Branch	W	N	Water Supply	Water Supply	A-I	
3. Orchard Branch	W	N	Water Supply	Water Supply	A-I	
AA. King Creek from Brevard water supply to mouth.	WF	P	Agri.	Agri.	D	Treated waste from Brevard.
1. Tinsley Creek	WF	N	Agri.	Agri.	D	
BB. Lambo Creek above Camp Carolina Dam.	W	N	Swimming	Swimming	B	Camp Carolina
1. Lambo Creek below Camp Carolina.	WF	N	Agri.	Agri.	D	
CC. Williamson Creek	WF	N	Agri.	Agri.	D	
1. Camp Creek	WF	N	Agri.	Agri.	D	
DD. Allison Creek above Dam	W	N	Rec.	Swimming	B	Camp Straus
Allison Creek below Dam	WF	N	Agri.	Agri.	D	
1. Lamb Creek	WF	N	Agri.	Agri.	D	
a. Neil Gap Branch	WF	N	Agri.	Agri.	D	
b. Soapstone Branch	WF	N	Agri.	Agri.	D	
-Davidson River from source to mouth of Turkey Creek.	NF	N	W.S.	W.S.	A-II	National Forest
A. Right Fork	NF	N	Fishing	Fishing	C	
1. Lanning Branch	NF	N	FWP	FWP	C	
2. Daniel Ridge Creek	NF	N	Fishing	Fishing	C	
a. Shuck Ridge Creek	NF	N	Fishing	Fishing	C	
B. Laurel Fork	NF	N	Fishing	Fishing	C	

TABLE 5

RECOMMENDED CLASSIFICATIONS

FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition		Chief		Best Usage	Proposed Class	Remarks
		Water	of	Usage	Usage			
C. Long Branch	NF	N		FWP	FWP	C		
D. Cove Creek	NF	N		FWP	FWP	C		
1. Caney Bottom Creek	NF	N		FWP	FWP	C		
E. Searcy Creek	NF	N		FWP	FWP	C		
F. Rockhouse Creek	NF	N		FWP	FWP	C		
G. Cedar Rock Creek	NF	N		FWP	FWP	C		
1. Grogan Creek	NF	N		FWP	FWP	C		
2. John Rock Branch	NF	N		FWP	FWP	C		
H. Chestnut Creek	NF	N		FWP	FWP	C		
I. Looking Glass Creek	NF	N		FWP	FWP	C		
1. Pounding Mill Branch	NF	N		FWP	FWP	C		
2. Big Bearpen Branch	NF	N		FWP	FWP	C		
a. Log Hollow Branch	NF	N		FWP	FWP	C		
J. Gumstand Branch	NF	N		FWP	FWP	C		
K. Stillwater Branch	NF	N		FWP	FWP	C		
L. Shutin Branch	NF	N		FWP	FWP	C		
M. Avery Creek	NF	N		FWP	FWP	C		
1. Henry Branch	NF	N		FWP	FWP	C		
N. Starens Branch	NF	N		FWP	FWP	C		
O. Turkey Creek	NF	N		WS	WS	A-II		

TABLE 5

RECOMMENDED CLASSIFICATIONS

FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
III. Davidson River from mouth of Turkey Creek to mouth	Res.	P	Waste Disposal	Waste Disposal	E	Waste from Ecusta Paper Co.
IV. French Broad River from mouth of Davidson River to mouth of Boylston Creek	WF	P	Waste Disposal	Waste Disposal	E	
A. Thrash Branch	WF	N	Agri.	Agri.	D	
B. Glade Creek	WF	N	Agri.	Agri.	D	
1. West Prong	WF	N	Agri.	Agri.	D	
2. Middle Prong	WF	N	Agri.	Agri.	D	
3. North Prong	WF	N	Agri.	Agri.	D	
C. Lyday Creek	WF	N	Agri.	Agri.	D	
1. Blythe Branch	WF	N	Agri.	Agri.	D	
D. Little River from source to Power Dam	WF	N	Fishing	Fishing	C	Designated trout stream
1. Steel Creek	WF	N	Fishing	Fishing	C	Designated trout stream
2. South Prong Little River	WF	N	Fishing	Fishing	C	
3. Mill Creek	WF	N	Fishing	Fishing	C	Designated trout stream
4. Eby Creek	WF	N	Agri.	Agri.	D	
5. Piedmont Lake Branch	WF	N	Bathing	Bathing	B	Elks Camp
6. Pole Bridge Branch	WF	N	Agri.	Agri.	D	
7. Clear Creek	WF	N	Agri.	Agri.	D	
8. Buckhorn Creek	WF	N	Agri.	Agri.	D	

TABLE 5

RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
a. Cannon Creek	WF	N	Agri.	Agri.	D	
9. Walker Creek	WF	N	Agri.	Agri.	D	
a. Glen Branch	WF	N	Bathing	Bathing	B	Camp Burges Glenn
10. McRay Branch	WF	N	Agri.	Agri.	D	
11. Duncan Creek	WF	N	Agri.	Agri.	D	
12. Tom Creek	WF	N	Agri.	Agri.	D	
13. Reasonover Creek from source to Dam	WF	N	Bathing	Bathing	B	Reasonover Lake
a. Wildcat Branch	WF	N	Bathing	Bathing	B	
b. Puncheon Creek	WF	N	Bathing	Bathing	B	
14. Reasonover Creek from Reasonover Lake to mouth	WF	N	Agri.	Agri.	D	
a. Briery Fork Creek	WF	N	Agri.	Agri.	D	
(1) Little Briery Creek	WF	N	Agri.	Agri.	D	
15. Grassy Creek above Camp Sky Valley	WF	N	Bathing	Bathing	B	Camp Sky Valley
Grassy Creek from Camp Sky Valley to mouth	WF	N	Agri.	Agri.	D	
a. Jim Creek	WF	N	Agri.	Agri.	D	
16. Hooker Creek	WF	N	Agri.	Agri.	D	
a. Jim Branch	WF	N	Agri.	Agri.	D	
17. Laurel Creek	WF	N	Agri.	Agri.	D	

TABLE 5

RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
18. Cox Branch	WF	N	Agri.	Agri.	D	
19. Merrill Creek	WF	N	Agri.	Agri.	D	
E. Little River from Power Dam to mouth	WF	N	Agri.	Agri.	D	
1. Hart Branch	WF	N	Agri.	Agri.	D	
2. Hawkins Branch	WF	N	Agri.	Agri.	D	
3. Crab Creek	WF	N	Agri.	Agri.	D	Camp Blue Star
a. Dismal Creek	WF	N	Agri.	Agri.	D	
b. Little Creek	WF	N	Agri.	Agri.	D	
c. Shoal Creek	WF	N	Agri.	Agri.	D	
d. Bullings Creek	WF	N	Agri.	Agri.	D	
e. Swords Creek	WF	N	Agri.	Agri.	D	
f. Ailents Core Branch	WF	N	Agri.	Agri.	D	
4. Big Branch	WF	N	Agri.	Agri.	D	
5. Eaglenest Branch	WF	N	Bathing	Bathing	B	Camp Eaglenest
F. King Creek	WF	N	Agri.	Agri.	D	
G. Gash Creek	WF	N	Agri.	Agri.	D	
H. Bryson Creek	WF	N	Agri.	Agri.	D	
I. Blythe Mill Creek	WF	N	Agri.	Agri.	D	
J. Little Willow Creek	WF	N	Agri.	Agri.	D	
1. Folly Creek	WF	N	Agri.	Agri.	D	

TABLE 5

RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
K. Big Willow Creek	WF	N	Agri.	Agri.	D	
1. South Fork	WF	N	Agri.	Agri.	D	
a. Piney Branch	WF	N	Agri.	Agri.	D	
2. North Fork	WF	N	Agri.	Agri.	D	
a. Carter Branch	WF	N	Agri.	Agri.	D	
1. Gash Creek	WF	N	Agri.	Agri.	D	
M. Brock Creek	WF	N	Agri.	Agri.	D	
N. Shaw Creek	WF	N	Agri.	Agri.	D	
1. Brightwater Branch	WF	N	Agri.	Bathing	B	Camp Site
O. Mill Pond Creek	WF	N	Agri.	Agri.	D	
1. Marsion Creek	WF	N	Agri.	Agri.	D	
V. French Broad River from mouth of Bollyston Creek to mouth of Ivy River	WF	N	Agri.	Agri.	D	
A. Bollyston Creek	WF	N	Agri.	Agri.	D	
1. Sittion Creek	NF	N	FWP	FWP	C	
a. Polecat Branch	NF	N	FWP	FWP	C	
b. Long Branch	NF	N	FWP	FWP	C	
2. Osburn Branch	NF	N	FWP	FWP	C	
3. Dog Creek	NF	N	FWP	FWP	C	
4. Woody Branch	NF	N	FWP	FWP	C	

TABLE 5
RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Calif. Present Usage	Best Usage	Proposed Class	Remarks
a. Sam Branch	NF	N	FWP	FWP	C	
5. Goldmine Branch	NF	N	Agri.	Agri.	D	
6. Betty Branch	NF	N	Agri.	Agri.	D	
7. Murray Branch	NF	N	Agri.	Agri.	D	
8. Crawford Branch	NF	N	Agri.	Agri.	D	
9. McKinney Branch	NF	N	Agri.	Agri.	D	
10. Sweetwater Branch	NF	N	Agri.	Agri.	D	
B. Mills River North Fork to mouth	NF	N	Agri.	Agri.	D	
1. Foster Creek	NF	N	FWP	FWP	C	
C. North Fork Mills River from source to Henderson- ville water supply Dam	NF	N	WS	WS	A-I	
1. Big Creek	NF	N	WS	WS	A-I	
a. Bee Branch	NF	N	WS	WS	A-I	
2. Fletcher Creek	NF	N	WS	WS	A-I	
a. Spencer Branch	NF	N	WS	WS	A-I	
b. Middle Fork	NF	N	WS	WS	A-I	
D. North Fork Mills River from Hendersonville Reser- voir to Mills River	NF	N	FWP	FWP	C	

TABLE 5

RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
1. Long Branch	NF	N	FWP	FWP	C	
2. Wash Creek	NF	N	FWP	FWP	C	
a. Bad Fork	NF	N	FWP	FWP	C	
b. Bear Branch	NF	N	FWP	FWP	C	
3. Rocky Fork	NF	N	FWP	FWP	C	
4. Rush Branch	NF	N	FWP	FWP	C	
5. Seniard Creek	NF	N	FWP	FWP	C	
a. Sitton Creek	NF	N	FWE	FWE	C	
6. Davie Branch	NF	N	FWP	FWP	C	
7. Stuart Creek	NF	N	FWP	FWP	C	
E. South Fork Mills River from source to Mills River	NF	N	FWP	FWP	C	
1. Pigeon Branch	NF	N	FWP	FWP	C	
2. Bearwallow Brook	NF	N	FWP	FWP	C	
3. Barnett Branch	NF	N	FWP	FWP	C	
4. Poplar Creek	NF	N	FWP	FWP	C	
5. Thompson Creek	NF	N	FWP	FWP	C	
6. Billy Branch	NF	N	FWP	FWP	C	
7. West Ridge Branch	NF	N	FWP	FWP	C	

TABLE 5
RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
8. Clayhammer Creek	NF	N	FWP	FWP	C	
9. Gladly Branch	NF	N	FWP	FWP	C	
10. Bearpen Branch	NF	N	FWP	FWP	C	
11. Laurel Brook	NF	N	FWP	FWP	C	
12. Sweetwater Branch	NF	N	FWP	FWP	C	
13. Brushy Branch	NF	N	FWP	FWP	C	
14. Cantrell Creek	NF	N	FWP	FWP	C	
15. Jumping Creek	NF	N	FWP	FWP	C	
16. Bradley Creek	NF	N	WS	WS	A-I	
a. Drab Branch	NF	N	WS	WS	A-I	
b. Little Drab Branch	NF	N	WS	WS	A-I	
c. State Rock Creek	NF	N	WS	WS	A-I	
d. Yellow Gap Creek	NF	N	WS	WS	A-I	
e. Laurel Creek	NF	N	WS	WS	A-I	
f. House Branch	NF	N	WS	WS	A-I	
(1) Long Branch	NF	N	WS	WS	A-I	
g. Thad Branch	NF	N	WS	WS	A-I	
h. Case Branch	NF	N	WS	WS	A-I	
i. Hammett Branch	NF	N	WS	WS	A-I	

TABLE 5

RECOMMENDED CLASSIFICATIONS

FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
17. Queen Creek	NF	N	Fish & WLP	Fish & WLP	C	
a. Pounding Mill Branch	NF	N	Fish & WLP	Fish & WLP	C	
F. Mud Creek	WF	P	Agri.	Agri.	D	Untreated waste from Hendersonville
1. Little Mud Creek	WF	N	Bathing	Bathing	B	Camp Kanuga, Camp Pinicale & Camp Teako
2. Greer Creek	WF	N	Bathing	Bathing	B	Camp Tonawanda
a. Murry Creek	WF	N	Agri.	Agri.	D	
(1) Capps Branch	WF	N	Agri.	Agri.	D	
3. Shepard Creek from Osceola Lake Dam to mouth.	Res.	N	Agri.	Agri.	D	
a. Perry Creek to Osceola Lake Dam.	WF	N	Bathing	Bathing	B	Camp site
(1) Finley Creek	WF	N	Bathing	Bathing	B	
b. Tonys Creek	WF	N	Bathing	Bathing	B	
4. Wash Creek	WF	N	Bathing	Bathing	B	
5. Johnson Drainage Ditch	Res.	P	Agri.	Agri.	D	
a. Bat Fork	WF	P	Agri.	Agri.	D	Untreated waste from Chipman LaCrosse.
(1) King Creek from source to Highland Lake Dam.	WF	N	Bathing	Bathing	B	Camp Highland Lake

TABLE 5
RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
(a) Meminger Cr.	WF	N	Agri.	Agri.	D	
(2) King Creek from Highland Lake to mouth.	WF	P	Agri.	Agri.	D	
(a) Dye Branch	WF	P	Agri.	Agri.	D	Untreated waste from Chipman LaGrosse.
6. Devils Fork	WF	N	Agri.	Agri.	D	
a. Camp Branch	WF	N	Bathing	Bathing	B	Camp site
7. Britton Creek	WF	N	Agri.	Agri.	D	
8. Cherry Creek	WF	N	Agri.	Agri.	D	
9. Clear Creek	WF	N	Agri.	Agri.	D	
a. Laurel Fork	WF	N	Agri.	Agri.	D	
(1) Bold Branch	WF	N	Agri.	Agri.	D	
b. Cox Creek	WF	N	Agri.	Agri.	D	
c. Puncheon Camp Creek	WF	N	Agri.	Agri.	D	
d. Lewis Creek	WF	N	Agri.	Agri.	D	
e. Kyles Creek	WF	N	Agri.	Agri.	D	
(1) Lanning Mill Creek	WF	N	Agri.	Agri.	D	
f. Henderson Creek	WF	N	Bathing	Bathing	B	Camp Caryle
g. Laurel Branch	WF	N	Agri.	Agri.	D	
h. Harper Creek	WF	N	Bathing	Bathing	B	Camp site

TABLE 5

RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
i. Phillips Branch	WF	N	Agri.	Agri.	D	
j. Wolfpen Creek	WF	N	Agri.	Agri.	D	
10. Featherston Creek	WF	N	Agri.	Agri.	D	
11. Byers Creek	WF	P	Agri.	Agri.	D	Treated sewage from Mountain Sanitarium.
G. Cane Creek from source to Highway #25.	WF	N	WS	WS	A-II	Cranston water supply.
1. Spring Mountain Branch	WF	N	WS	WS	A-II	
2. Ellison Branch	WF	N	WS	WS	A-II	
3. Rocky Fork	WF	N	WS	WS	A-II	
a. Licklog Branch	WF	N	WS	WS	A-II	
b. Flat Branch	WF	N	WS	WS	A-II	
4. Laurel Branch	WF	N	WS	WS	A-II	
5. Garren Creek	WF	N	WS	WS	A-II	
6. Trantham Creek	WF	N	WS	WS	A-II	
7. Ballard Creek	WF	N	WS	WS	A-II	
8. Ashworth Creek	WF	N	WS	WS	A-II	
a. Reed Branch	WF	N	WS	WS	A-II	
9. Shoal Creek	WF	N	WS	WS	A-II	
10. Brush Creek	WF	N	WS	WS	A-II	
11. Gap Creek	WF	N	WS	WS	A-II	

TABLE 5
RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
a. Webb Creek	WF	N	WS	WS	A-II	Camp Glenn Arden
b. Little Webb Creek	WF	N	WS	WS	A-II	
12. Gravel Creek	WF	N	WS	WS	A-II	
13. Tweed Creek	WF	N	WS	WS	A-II	
14. Merrill Cove Creek	WF	N	WS	WS	A-II	
15. Robinson Creek	WF	N	WS	WS	A-II	
a. West on Branch	WF	N	WS	WS	A-II	
16. Pinner Creek	WF	N	WS	WS	A-II	
17. Hooper Creek	WF	N	WS	WS	A-II	
a. South Fork	WF	N	WS	WS	A-II	
b. Duncan Creek	WF	N	WS	WS	A-II	
H. Cane Creek from Highway #25 to mouth.	WF	N	Agri.	Agri.	D	
1. Cushion Branch	WF	N	Agri.	Agri.	D	
2. Kimsey Creek	WF	N	Agri.	Agri.	D	
a. Higgings Branch	WF	N	Agri.	Agri.	D	
I. McDowell Creek	WF	N	Agri.	Agri.	D	
1. Soapstone Branch	WF	N	Fishing	Fishing	C	Camp Osceola
J. Line Creek	WF	N	Agri.	Agri.	D	Camp Whippoorwill
K. Avery Creek	WF	N	Bathing	Bathing	B	

TABLE 5

RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
L. Spain Branch	NF	N	Fishing	Fishing	C	
L. Powell Creek	WF	P	Agri.	Agri.	D	
M. Clayton Creek	WF	N	Agri.	Agri.	D	
N. Ashley Branch	WF	N	Agri.	Agri.	D	
O. Orton Branch	WF	N	Agri.	Agri.	D	
P. Avery Creek	WF	N	Agri.	Agri.	D	
L. Spain Branch	WF	N	Agri.	Agri.	D	
Q. Powell Creek	WF	P	Agri.	Agri.	D	Skyland S. D.
R. Ducker Creek	WF	N	Agri.	Agri.	D	
S. Clayton Creek	WF	N	Agri.	Agri.	D	
T. Ashley Branch	WF	N	Agri.	Agri.	D	
U. Orton Branch	WF	N	Agri.	Agri.	D	
V. Bent Creek	NF	N	FWP	FWP	C	
1. Rich Branch	NF	N	FWP	FWP	C	
2. Long Branch	NF	N	FWP	FWP	C	
3. Laurel Branch	NF	N	FWP	FWP	C	
4. Beaten Branch	NF	N	FWP	FWP	C	
5. Boyd Branch	NF	N	FWP	FWP	C	
6. Ledford Creek	NF	N	FWP	FWP	C	
7. Wolf Creek	NF	N	FWP	FWP	C	
8. Wesley Creek	NF	N	FWP	FWP	C	

TABLE 5
RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
a. Creasman Branch	WF	N	FWP	FWP	C	
W. Boring Mill Branch	WF	N	Agri.	Agri.	D	
X. Dingle Creek	W	P	Agri.	Agri.	D	Busby Sanitary District
Y. Four Mile Branch	W	N	Agri.	Agri.	D	
Z. White Creek	WF	N	Agri.	Agri.	D	
AA. Hominy Creek	WF	P	Industrial Water Supply	Industrial Water Supply	D	Waste from American Enka and Asheville
1. Dutch Cove Creek	WF	N	Agri.	Agri.	D	
2. North Hominy Creek	WF	N	Agri.	Agri.	D	
3. George Branch	WF	N	Agri.	Agri.	D	
4. Webb Branch	WF	N	Agri.	Agri.	D	
5. South Hominy Creek	WF	N	Agri.	Agri.	D	
a. Saw Branch	WF	N	Agri.	Agri.	D	
b. Sams Branch	WF	N	Agri.	Agri.	D	
c. Stony Fork	WF	N	Agri.	Agri.	D	
(1) Wayah Branch	WF	N	Agri.	Agri.	D	
(2) Chestnut Creek	WF	N	Agri.	Agri.	D	
(3) McKinney Creek	WF	N	Agri.	Agri.	D	
d. Warren Creek	WF	N	Agri.	Agri.	D	
(1) White Rock Branch	WF	N	Agri.	Agri.	D	
e. Glady Fork	WF	N	Agri.	Agri.	D	
(1) Hogpen Branch	WF	N	Agri.	Agri.	D	

TABLE 5

RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
(2) Ballard Creek	WF	N	Agri.	Agri.	D	
f. Curtis Creek	WF	N	Agri.	Agri.	D	
g. Morgan Branch	WF	N	Agri.	Agri.	D	
h. Beaverdam Creek	WF	N	Fishing	Fishing	C	Designated trout stream
(1) Jesse Branch	W	N	Fishing	Fishing	C	
6. Pole Creek	WF	N	Agri.	Agri.	D	
a. Jugtown Branch	WF	N	Agri.	Agri.	D	
b. Little Pole Creek	WF	N	Agri.	Agri.	D	
7. Bill Moore Creek	WF	N	Industrial Water Supply	Industrial Water Supply	D	
8. More Creek	WF	N	Agri.	Agri.	D	
9. Pond Branch	WF	N	Agri.	Agri.	D	
10. Trent Branch	WF	N	Agri.	Agri.	D	
11. Ragsdale Creek	WF	N	Fishing	Fishing	C	Lake Ashnoca
12. Canie Creek	WF	P	Agri.	Agri.	D	
BB. Moore Branch	Res.	Res.			D	
CC. Swannanoe River from source to mouth	WF	P	Agri.	Agri.	D	Ram Branch outfall
1. Assembly Lake	WF	N	Bathing	Bathing	B	
2. Glen Cove	WF	N	Agri.	Agri.	D	
3. Little Rattlesnake Branch	W	N	WS	WS	A-I	
4. Big Rattlesnake Branch	W	N	WS	WS	A-I	

TABLE 5
RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
5. Dunsmore Cove Branch	WF	N	WS	WS	A-I	
6. Flat Creek from source to mouth of Big Piney Branch	W	N	WS	WS	A-I	
a. Slaty Branch	W	N	WS	WS	A-I	
b. Big Piney Branch	W	N	WS	WS	A-I	
7. Flat Creek from mouth of Big Piney Branch to mouth	WF	N	Agri.	Agri.	D	
a. Punccheon Branch	WF	N	Agri.	Agri.	D	
(1) Kitchen Branch	WF	N	Agri.	Agri.	D	
b. Little Piney Branch	WF	N	Agri.	Agri.	D	
8. Camp Branch	WF	N	Agri.	Agri.	D	
a. Brittin Creek	WF	N	Agri.	Agri.	D	
b. Lynch Creek	WF	N	Agri.	Agri.	D	
9. Laurel Branch	WF	N	Bathing	Bathing	B	Laurel Lake
10. Briar Branch	WF	N	Bathing	Bathing	B	
a. Wolfpit Branch above YMCA Camp	WF	N	WS	WS	A-I	
b. Wolfpit Branch below YMCA Camp	WF	N	Agri.	Agri.	D	
11. Tomahawk Branch	WF	N	Bathing	Bathing	B	Lake Tomahawk
12. North Fork Swannanoa River above Asheville Reservoir.	W	N	WS	WS	A-I	
a. Glassmine Branch	W	N	WS	WS	A-I	

TABLE 5 .

RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Class Present Usage	Best Usage	Proposed Class	Remarks
b. Shadepen Branch	W	N	WS	WS	A-I	
c. Stony Fork	W	N	WS	WS	A-I	
d. Saltrock Branch	W	N	WS	WS	A-I	
e. Left Fork	W	N	WS	WS	A-I	
f. Right Fork	W	N	WS	WS	A-I	
(1) Morgan Branch	W	N	WS	WS	A-I	
(2) Big Branch	W	N	WS	WS	A-I	
(3) Little Fork	W	N	WS	WS	A-I	
(4) Dry Branch	W	N	WS	WS	A-I	
(5) Long Branch	W	N	WS	WS	A-I	
(6) Sugar Springs Branch	W	N	WS	WS	A-I	
(7) Chestnut Branch	W	N	WS	WS	A-I	
(8) Sugar Fork	W	N	WS	WS	A-I	
(9) Big Cove Branch	W	N	WS	WS	A-I	
13. Swamanoa River below Asheville water supply.	WF	P	Agri.	Agri.	D	
a. Shute Branch	W	N	Agri.	Agri.	D	
b. Walker Branch	WF	N	Agri.	Agri.	D	
c. Fall Branch	WF	N	Agri.	Agri.	D	
d. Eden Creek	Res.	N	Bathing	Bathing	B	
14. Steep Creek	WF	N	Agri.	Agri.	D	

TABLE 5

RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
15. Eskridge Cove Branch	WF	N	Industrial Water Supply	Industrial Water Supply	D	Beacon Mfg. Co. Process water
16. Patton Cove Creek	WF	N	Agri.	Agri.	D	
17. Beetree Creek above Asheville water supply.	W	N	WS	WS	A-I	
a. Bell Branch	W	N	WS	WS	A-I	
b. Right Fork	W	N	WS	WS	A-I	
c. Wolfe Branch	W	N	WS	WS	A-I	
d. Left Fork	W	N	WS	WS	A-I	
18. Beetree Creek below Beetree Reservoir.	WF	N	Agri.	Agri.	D	
a. Spruce Fork	WF	N	Agri.	Agri.	D	
b. Long Branch	WF	N	Agri.	Agri.	D	
c. Gregg Branch	WF	N	Agri.	Agri.	D	
19. Bull Creek	WF	N	Agri.	Agri.	D	
a. Jones Cove Branch	WF	N	Agri.	Agri.	D	
b. Keasler Branch	WF	N	Agri.	Agri.	D	
c. Shope Creek	WF	N	Agri.	Agri.	D	
(1) Wolf Creek	WF	N	Agri.	Agri.	D	
20. Christian Creek	WF	N	Agri.	Agri.	D	
a. Jim Branch	WF	N	Agri.	Agri.	D	
b. Porter Cove Branch	WF	N	Agri.	Agri.	D	
21. Grassy Branch	WF	N	Agri.	Agri.	D	

TABLE 5

RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief		Best Usage	Proposed Class	Remarks
			Present	Usage			
22. Gashes Creek	WF	N	Agri.	Agri.	Agri.	D	
23. Haw Creek	WF	N	Agri.	Agri.	Agri.	D	
24. Ross Creek	WF	N	Bathing	Bathing	Bathing	B	Lake Kenilworth
25. Sweeten Creek	WF	N	Agri.	Agri.	Agri.	D	
26. Ram Branch	WF	N	Agri.	Agri.	Agri.	D	
DD. Smith Mill Creek	WF	N	Agri.	Agri.	Agri.	D	
1. McKinney Branch	WF	N	Agri.	Agri.	Agri.	D	
2. Emma Branch	WF	N	Agri.	Agri.	Agri.	D	
EE. Reed Creek	Res.	P	Agri.	Agri.	Agri.	D	
FF. Smith Creek	WF	N	Agri.	Agri.	Agri.	D	
GG. Beaverdam Creek	WF	P	Agri.	Agri.	Agri.	D	
1. Linn Cove Creek	WF	N	Agri.	Agri.	Agri.	D	
2. Rice Branch	WF	N	Agri.	Agri.	Agri.	D	
3. Wolf Cove	WF	N	Agri.	Agri.	Agri.	D	
4. Carter Cove	WF	N	Agri.	Agri.	Agri.	D	
5. Spooks Branch	Res.	N	Agri.	Agri.	Agri.	D	
6. Killian Branch	WF	N	Agri.	Agri.	Agri.	D	
HH. Lee Creek	WF	N	Agri.	Agri.	Agri.	D	
II. Nowfound Creek	WF	N	Agri.	Agri.	Agri.	D	
1. Jones Branch	WF	N	Agri.	Agri.	Agri.	D	
2. Brooks Branch	WF	N	Agri.	Agri.	Agri.	D	
3. Round Hill Branch	WF	N	Agri.	Agri.	Agri.	D	

TABLE 5
RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
4. Gouches Branch	WF	N	Agri.	Agri.	D	
5. Sluder Branch	WF	N	Agri.	Agri.	D	
6. Parker Branch	WF	N	Agri.	Agri.	D	
7. Dix Creek	WF	N	Agri.	Agri.	D	
JJ. Blue Branch	WF	N	Agri.	Agri.	D	
KK. Jenkins Branch	WF	N	Agri.	Agri.	D	
LL. Reems Creek above Highway 25.	WF	N	Fishing	Fishing	C	Designated trout stream.
1. Sugar Camp Fork	W	N	WS	WS	A-I	
2. Bee Branch	W	N	Fishing	Fishing	C	
3. Laurel Fork above Woodfin Res.	W	N	WS	WS	A-I	
Laurel Fork below Woodfin Res.	W	N	Bathing	Bathing	B	Camp Sequoyah
4. Maney Branch	WF	N	Fishing	Fishing	C	
5. Ox Creek above Reservoir	W	N	WS	WS	A-I	Weaverville water supply.
Ox Creek below Reservoir	WF	N	Fishing	Fishing	C	
a. Jimmy Branch	WF	N	Fishing	Fishing	C	
6. Mundy Cove Branch	WF	N	Fishing	Fishing	C	
7. Eller Cove Branch above Reservoir.	W	N	WS	WS	A-I	Weaverville water supply.
Eller Cove Branch below Reservoir.	WF	N	Fishing	Fishing	C	
Reems Creek below Highway #25.	WF	P	Agri.	Agri.	D	Raw waste from Weaverville.

TABLE 5

RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
a. Gill Branch	WF	N	Agri.	Agri.	D	
b. Wagner Branch	WF	N	Agri.	Agri.	D	
MM. Flat Creek	WF	N	Agri.	Agri.	D	
1. Coles Cove Branch	WF	N	Agri.	Agri.	D	
2. Brank Cove Branch	WF	N	Agri.	Agri.	D	
3. Little Flat Creek	WF	N	Agri.	Agri.	D	
4. Dick Branch	WF	N	Agri.	Agri.	D	
a. Stanley Branch	WF	N	Agri.	Agri.	D	
b. Stanfield Branch	WF	N	Agri.	Agri.	D	
5. Clark Branch	WF	N	Agri.	Agri.	D	
6. Shepherd Branch	WF	N	Agri.	Agri.	D	
a. Indian Camp Branch	WF	N	Agri.	Agri.	D	
7. White Branch	WF	N	Agri.	Agri.	D	
NN. Whittier Branch	WF	N	Agri.	Agri.	D	
OO. Panther Branch	WF	N	Agri.	Agri.	D	
1. Blevin Branch	WF	N	Agri.	Agri.	D	
PP. Kuykendall Branch	WF	N	Agri.	Agri.	D	
QQ. Sandy Mush Creek	WF	N	Agri.	Agri.	D	
1. Bald Fork	WF	N	Agri.	Agri.	D	
2. Long Branch	WF	N	Agri.	Agri.	D	
3. Robinson Creek	WF	N	Agri.	Agri.	D	
4. Willow Creek	WF	N	Agri.	Agri.	D	

TABLE 5

RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Usage	Best Usage	Proposed Class	Remarks
a. Bee Branch	WF	N	Agri.	Agri.	D	
5. Clark Branch	WF	N	Agri.	Agri.	D	
6. Hogeye Branch	WF	N	Agri.	Agri.	D	
7. Sugar Creek	WF	N	Agri.	Agri.	D	
8. Little Sandy Mush Creek	WF	N	Agri.	Agri.	D	
a. Doggett Branch	WF	N	Agri.	Agri.	D	
b. Gilbert Branch	WF	N	Agri.	Agri.	D	
c. Fall Branch	WF	N	Agri.	Agri.	D	
d. Barrett Branch	WF	N	Agri.	Agri.	D	
e. Morrow Branch	WF	N	Agri.	Agri.	D	
9. Worley Cove Branch	WF	N	Agri.	Agri.	D	
10. Simmons Branch	WF	N	Agri.	Agri.	D	
11. Turkey Creek	WF	N	Agri.	Agri.	D	
a. North Turkey Creek	WF	N	Agri.	Agri.	D	
b. South Turkey Creek	WF	N	Agri.	Agri.	D	
(1) Martin Branch	WF	N	Agri.	Agri.	D	
RR. Ponder Branch	WF	N	Agri.	Agri.	D	
1. Reems Branch	WF	N	Agri.	Agri.	D	
SS. Allman Branch	WF	N	Agri.	Agri.	D	
TT. Panhandle Branch	WF	N	Agri.	Agri.	D	
VI. French Broad River from mouth of Ivy River to N. C. - Tenn. State line.	WF	P	Agri.	Fishing	C	

TABLE 5

RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District		Condition of Water	Chief Present Usage		Best Usage	Proposed Class	Remarks
	District	Character of District		Usage	Chief Present Usage			
A. Ivy River from Barnardsville to mouth.	WF		P	Agri.	Agri.	Agri.	D	
1. Dillingham Creek (Big Ivy) from source to FFA Camp.	WF		N	Bathing	Bathing	Bathing	B	Camp Tom Browne
Dillingham Creek (Big Ivy) from FFA Camp to Barnardsville.	WF		N	Fishing	Fishing	Fishing	C	Designated trout waters from Barnardsville to 5 miles upstream.
a. Walker Branch	WF		N	Fishing	Fishing	Fishing	C	
(1) Staire Branch	W		N	Fishing	Fishing	Fishing	C	
b. Corner Rock Creek	WF		N	Fishing	Fishing	Fishing	C	
(1) Little Andy Creek	W		N	Fishing	Fishing	Fishing	C	
c. Town Creek	WF		N	Agri.	Agri.	Agri.	D	
d. Stony Creek	WF		N	Agri.	Agri.	Agri.	D	
(1) Carter Creek	W		N	Fishing	Fishing	Fishing	D	
(a) Water Fall Cr.	W		N	Fishing	Fishing	Fishing	C	
(1) Bearwallow Creek	W		N	Fishing	Fishing	Fishing	C	
(b) Peach Orchard Creek	W		N	Fishing	Fishing	Fishing	C	
(c) Sawmill Branch	W		N	Fishing	Fishing	Fishing	C	
(2) Mineral Creek	WF		N	Fishing	Fishing	Fishing	C	Designated trout waters.
(a) Hawkbill Creek	WF		N	Fishing	Fishing	Fishing	C	
e. Williams Branch	WF		N	Agri.	Agri.	Agri.	D	
f. Haw Branch	WF		N	Agri.	Agri.	Agri.	D	

TABLE 5
RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
2. Paint Fork	WF	N	Agri.	Agri.	D	
a. Alexander Branch	WF	N	Agri.	Agri.	D	
b. Shelton Branch	WF	N	Agri.	Agri.	D	
3. North Fork	WF	N	Fishing	Fishing	C	Designated trout waters.
a. Ogle Branch	W	N	Fishing	Fishing	C	
b. Straight Creek	W	N	Fishing	Fishing	C	
c. Little Will Branch	WF	N	Agri.	Agri.	D	
d. Burleson Branch	WF	N	Agri.	Agri.	D	
e. Martin Creek	WF	N	Agri.	Agri.	D	
f. Poverty Branch	WF	N	Agri.	Agri.	D	
4. Whittemore Creek	WF	N	Agri.	Agri.	D	
a. Dock Branch	WF	N	Agri.	Agri.	D	
5. Buckner Branch	WF	N	Agri.	Agri.	D	
6. Sugar Creek	WF	N	Agri.	Agri.	D	
7. Brown Branch	WF	N	Agri.	Agri.	D	
8. Morgan Branch	WF	N	Agri.	Agri.	D	
a. McKinney Branch	WF	N	Agri.	Agri.	D	
9. Hobson Branch	WF	N	Agri.	Agri.	D	
10. Little Ivy River	WF	N	Agri.	Agri.	D	
a. Paint Fork	WF	N	Agri.	Agri.	D	
(1) Ray Branch	WF	N	Agri.	Agri.	D	
(2) Tildon Metcalf Cr.	WF	N	Agri.	Agri.	D	

TABLE 5

RECOMMENDED CLASSIFICATIONS

FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
(3) Willie Metcalf Cr.	WF	N	Agri.	Agri.	D	
(4) Terry Fork	WF	N	Agri.	Agri.	D	
(a) Dade Branch	WF	N	Agri.	Agri.	D	
(b) Parker Branch	WF	N	Agri.	Agri.	D	
(c) Big Deadering Branch	WF	N	Agri.	Agri.	D	
(d) Ingie Branch	WF	N	Agri.	Agri.	D	
b. Middle Fork	WF	N	Agri.	Agri.	D	
(1) Ivy Gap Branch	WF	N	Agri.	Agri.	D	
(2) Holland Creek	WF	N	Agri.	Agri.	D	
(3) Ponder Creek	WF	N	Agri.	Agri.	D	
(4) Jordan Branch	WF	N	Agri.	Agri.	D	
(5) Polly Branch	WF	N	Agri.	Agri.	D	
(6) Turkey Branch	WF	N	Agri.	Agri.	D	
(7) Shake Rag Branch	WF	N	Agri.	Agri.	D	
(8) Crooked Creek	WF	N	Agri.	Agri.	D	
(9) Bailey Branch	WF	N	Agri.	Agri.	D	
c. California Creek	WF	N	Agri.	Agri.	D	
(1) Holcombe Branch	WF	N	Agri.	Agri.	D	
(2) Chandler Creek	WF	N	Agri.	Agri.	D	
(3) Sprinkle Creek	WF	N	Agri.	Agri.	D	
(4) Jarvis Branch	WF	N	Agri.	Agri.	D	

TABLE 5

RECOMMENDED CLASSIFICATIONS

FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
(5) Higgins Branch	WF	N	Agri.	Agri.	D	
11. Adkins Branch	WF	N	Agri.	Agri.	D	
a. Gentry Branch	WF	N	Agri.	Agri.	D	
12. Gabriel Creek	WF	P	Agri.	Agri.	D	Sewage & Ind. Waste from Mars Hill.
a. Banjo Branch	WF	P	Agri.	Agri.	D	Sewage & Ind. Waste from Hammarlund Mfg. Co.
13. Blackstrap Branch	WF	N	Agri.	Agri.	D	
14. Eller Branch	WF	N	Agri.	Agri.	D	
15. Whiteoak Creek	WF	N	Agri.	Agri.	D	
16. Bull Creek	WF	N	Agri.	Agri.	D	
a. East Fork Bull Creek	WF	N	Agri.	Agri.	D	
(1) Bearwallow Branch	WF	N	Agri.	Agri.	D	
(2) Meadow Branch	WF	N	Agri.	Agri.	D	
(3) Dans Branch	WF	N	Agri.	Agri.	D	
(4) Grooms Branch	WF	N	Agri.	Agri.	D	
(5) Ammons Branch	WF	N	Agri.	Agri.	D	
(6) Beetree Creek	WF	N	Agri.	Agri.	D	
(a) Gosnell Branch	WF	N	Agri.	Agri.	D	
(7) Dill Branch	WF	N	Agri.	Agri.	D	
b. West Fork	WF	N	Agri.	Agri.	D	
(1) Arrington Branch	WF	N	Agri.	Agri.	D	
(2) Cargle Branch	WF	N	Agri.	Agri.	D	

TABLE 5

RECOMMENDED CLASSIFICATIONS

FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District		Certification of Water		Class of Present Usage		Best Usage	Proposed Class	Remarks
	Character of District		Certification of Water		Class of Present Usage				
(3) Sprinkler Branch	WF		N		Agri.		Agri.	D	
(4) Griffin Branch	WF		N		Agri.		Agri.	D	
(5) Fisher Branch	WF		N		Agri.		Agri.	D	
(a) Wilson Branch	WF		N		Agri.		Agri.	D	
(6) Thomas Branch	WF		N		Agri.		Agri.	D	
c. Cody Branch	WF		N		Agri.		Agri.	D	
d. Halewood Creek	WF		N		Agri.		Agri.	D	
e. Bone Camp Creek	WF		N		Agri.		Agri.	D	
f. Nowhere Branch	WF		N		Agri.		Agri.	D	
g. Laurel Branch	WF		N		Agri.		Agri.	D	
17. Stillhouse Branch	WF		N		Agri.		Agri.	D	
18. Hunter Branch	WF		N		Agri.		Agri.	D	
19. Sugar Camp Branch	WF		N		Agri.		Agri.	D	
a. Spouse Branch	WF		N		Agri.		Agri.	D	
20. Long Branch	WF		N		Agri.		Agri.	D	
21. Revis Branch	WF		N		Agri.		Agri.	D	
B. Tillery Branch	WF		N		Agri.		Agri.	D	
C. Hayes Run	WF		N		Agri.		Agri.	D	
1. Tweed Branch	WF		N		Agri.		Agri.	D	
2. Proffitt Branch	WF		N		Agri.		Agri.	D	
D. Bailey Branch	WF		N		Agri.		Agri.	D	
1. Laurel Branch	WF		N		Agri.		Agri.	D	

TABLE 5

RECOMMENDED CLASSIFICATIONS

FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
E. Sweetwater Branch	WF	N	Agri.	Agri.	D	
F. Bear Creek	WF	N	Agri.	Agri.	D	
1. Rector Branch	WF	N	Agri.	Agri.	D	
G. Little Pine Creek	WF	N	Agri.	Agri.	D	
1. Rough Branch	WF	N	Agri.	Agri.	D	
2. High Shoal Branch	WF	N	Agri.	Agri.	D	
3. Roberts Branch	WF	N	Agri.	Agri.	D	
a. Boyd Branch	WF	N	Agri.	Agri.	D	
4. Caney Fork	WF	N	Agri.	Agri.	D	
a. Redbud Branch	WF	N	Agri.	Agri.	D	
H. Pawpaw Creek	WF	N	Agri.	Agri.	D	
I. Walnut Creek	WF	N	Agri.	Agri.	D	
1. Heck Creek	WF	N	Agri.	Agri.	D	
a. Appletree Branch	WF	N	Agri.	Agri.	D	
2. Hunter Creek above Water Supply Dam.	W	N	WS	WS	A-I	Marshall Water Supply
Hunter Creek below Water Supply Dam.	WF	N	Agri.	Agri.	D	
a. Wild Branch	WF	N	Agri.	Agri.	D	
3. Sprinkle Branch	WF	N	Agri.	Agri.	D	
4. Indian Grove Gap Branch	WF	N	Agri.	Agri.	D	
5. Ammons Branch	WF	N	Agri.	Agri.	D	
a. Bee Branch	WF	N	Agri.	Agri.	D	

TABLE 5

RECOMMENDED CLASSIFICATIONS

FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief		Best Usage	Proposed Class	Remarks
			Present	Usage			
6. West Branch	WF	N	Agri.	Agri.	Agri.	D	
7. Big Branch	WF	N	Agri.	Agri.	Agri.	D	
8. Dry Branch	WF	N	Agri.	Agri.	Agri.	D	
9. Station Branch	WF	N	Agri.	Agri.	Agri.	D	
J. Anderson Branch	WF	N	Agri.	Agri.	Agri.	D	
K. Big Pine Creek	WF	N	Fishing	Fishing	Fishing	C	
1. South Fork	WF	N	Fishing	Fishing	Fishing	C	
a. Caldwell Branch	WF	N	Agri.	Agri.	Agri.	D	
2. North Fork	WF	N	Fishing	Fishing	Fishing	C	
a. Bee Branch	WF	N	Agri.	Agri.	Agri.	D	
b. Davis Branch	WF	N	Agri.	Agri.	Agri.	D	
c. Peace Branch	WF	N	Agri.	Agri.	Agri.	D	
3. Baker Branch	WF	N	Agri.	Agri.	Agri.	D	
a. Gentry Branch	WF	N	Agri.	Agri.	Agri.	D	
4. Back Branch	WF	N	Agri.	Agri.	Agri.	D	
5. Indian Camp Branch	WF	N	Fishing	Fishing	Fishing	C	
6. Sugar Camp Branch	WF	N	Fishing	Fishing	Fishing	C	
7. Puncheon Camp Branch	WF	N	Fishing	Fishing	Fishing	C	
8. Hogskin Branch	WF	N	Agri.	Agri.	Agri.	D	
9. Rector Branch	WF	N	Fishing	Fishing	Fishing	C	
10. Levi Branch	WF	N	Agri.	Agri.	Agri.	D	
L. Brush Creek	WF	N	Agri.	Agri.	Agri.	D	

TABLE 5

RECOMMENDED CLASSIFICATIONS

FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
1. McDevitt Branch	WF	N	Agri.	Agri.	D	
2. Rice Branch	WF	N	Agri.	Agri.	D	
3. Hopewell Branch	WF	N	Agri.	Agri.	D	
M. Doe Branch	NF	N	FWP	FWP	C	
1. Sawmill Branch	NF	N	FWP	FWP	C	
2. Rocky Branch	NF	N	FWP	FWP	C	
N. King Creek	NF	N	FWP	FWP	C	
1. Woolsey Branch	NF	N	FWP	FWP	C	
O. Big Laurel Creek	WF	N	Fishing	Fishing	C	Designated trout stream
1. North Fork above water supply intake.	W	N	WS	WS	A-I	
North Fork below water supply.	WF	N	Fishing	Fishing	C	
2. Flea Branch	WF	N	Fishing	Fishing	C	
3. Wilson Branch	WF	N	Fishing	Fishing	C	
4. Ponder Branch	WF	N	Fishing	Fishing	C	Designated trout stream
5. Punchoon Fork	WF	N	Fishing	Fishing	C	
a. Hampton Creek	WF	N	Fishing	Fishing	C	
b. Wolf Laurel Branch	WF	N	Fishing	Fishing	C	
6. Shook Branch	WF	N	Fishing	Fishing	C	
7. Bear Branch	WF	N	Fishing	Fishing	C	
a. Callahan Branch	WF	N	Fishing	Fishing	C	
8. Little Creek	WF	N	Fishing	Fishing	C	

TABLE 5

RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
a. Smith Branch	WF	N	Fishing	Fishing	C	
9. Roaring Fork	WF	N	Fishing	Fishing	C	
10. Long Branch	WF	N	Fishing	Fishing	C	
11. Foster Creek	WF	N	Fishing	Fishing	C	
a. Peter Cove Creek	WF	N	Fishing	Fishing	C	
b. Little Foster Creek	WF	N	Fishing	Fishing	C	
12. Wolf Branch	WF	N	Fishing	Fishing	C	
13. Pine Branch	WF	N	Fishing	Fishing	C	
14. Watermelon Branch	WF	N	Fishing	Fishing	C	
15. Wild Branch	WF	N	Fishing	Fishing	C	
16. Lewis Branch	WF	N	Fishing	Fishing	C	
17. Buckner Branch	WF	N	Fishing	Fishing	C	
18. Palmer Camp Branch	WF	N	Fishing	Fishing	C	
19. Rice Cove Creek	WF	N	Fishing	Fishing	C	
20. Spillcorn Creek	WF	N	Fishing	Fishing	C	Designated trout stream
a. Baker Creek	WF	N	Fishing	Fishing	C	
b. Calvin Creek	WF	N	Fishing	Fishing	C	
(1) Amos Creek	WF	N	Fishing	Fishing	C	
c. Lisenbee Branch	WF	N	Fishing	Fishing	C	
21. Barnes Branch	WF	N	Fishing	Fishing	C	
22. Sodom Branch	WF	N	Fishing	Fishing	C	

TABLE 5

RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
a. Crane Branch	WF	N	Fishing	Fishing	C	
23. Gunter Branch	WF	N	Fishing	Fishing	C	
24. High Shoal Branch	WF	N	Fishing	Fishing	C	
25. Shelton Laurel Creek	WF	P	Fishing	Fishing	C	Designated trout stream (Sewage from White Rock School)
a. Mill Creek	WF	N	Fishing	Fishing	C	
b. Big Creek	W	N	Fishing	Fishing	C	
(1) Bear Creek	W	N	Fishing	Fishing	C	
(2) Chimney Creek	W	N	Fishing	Fishing	C	
(3) Dry Creek	W	N	Fishing	Fishing	C	
(4) Rock Branch	W	N	Fishing	Fishing	C	
(5) White Oak Flats Branch	W	N	Fishing	Fishing	C	
(6) Shelton Branch	WF	N	Fishing	Fishing	C	
c. Hensley Branch	WF	N	Fishing	Fishing	C	
d. Hickorylog Branch	WF	N	Fishing	Fishing	C	
e. Rock Branch	WF	N	Fishing	Fishing	C	
f. Hickory Fork	WF	N	Fishing	Fishing	C	
(1) West Prong	W	N	Fishing	Fishing	C	
(2) East Prong	W	N	Fishing	Fishing	C	
(a) Baxter Branch	W	N	Fishing	Fishing	C	
(b) Big Rocky Branch	W	N	Fishing	Fishing	C	
(c) Little Prong	W	N	Fishing	Fishing	C	

TABLE 5

RECOMMENDED CLASSIFICATIONS

FRENCH BROOK RIVER DRAINAGE AREA

Stream	Character of District			Chief of Water	Present Usage	Best Usage	Proposed Class	Remarks
	Character of District	Comition of Water						
g. Duckmill Creek	WF		N	Fishing	Fishing		C	
h. Tarlton Branch	WF		N	Fishing	Fishing		C	
i. Johnson Branch	WF		N	Fishing	Fishing		C	
j. Cutshall Branch	WF		N	Fishing	Fishing		C	
k. Roddy Branch	WF		N	Fishing	Fishing		C	
l. Little Laurel Creek	WF		N	Fishing	Fishing		C	Designated trout stream
(1) Allen Creek	W		N	Fishing	Fishing		C	
(a) Cold Spring Branch	W		N	Fishing	Fishing		C	
(2) Bearpen Branch	W		N	Fishing	Fishing		C	
(3) Poundingmill Branch	W		N	Fishing	Fishing		C	
(4) Shelton Branch	WF		N	Fishing	Fishing		C	
(a) Billy King Branch	WF		N	Fishing	Fishing		C	
(5) Horse Branch	W		N	Fishing	Fishing		C	
26. Big Hurricane Creek	W		N	Fishing	Fishing		C	
27. Little Hurricane Creek	W		N	Fishing	Fishing		C	
28. Woodson Branch	W		N	Fishing	Fishing		C	
29. Cook Branch	W		N	Fishing	Fishing		C	
P. Pump Branch	W		N	NF	Fishing		C	
Q. Racoon Branch	W		N	NF	Fishing		C	
R. Mountain Island Branch	W		N	NF	Fishing		C	

TABLE 2.
RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief		Best Usage	Proposed Class	Remarks
			Present	Usage			
S. Silver Mine Creek	W	N	Bathing	Bathing	Bathing	B	
T. Cascade Branch	W	N	WS	WS	WS	A-I	Hot Springs water supply
U. Spring Creek from source to mouth of Reservoir Branch	WF	N	Fishing	Fishing	Fishing	C	Designated trout stream
1. Jasperfield Branch	WF	N	Agri.	Fishing	Fishing	C	
2. Bald Creek	WF	N	Agri.	Fishing	Fishing	C	
3. Little Bald Creek	WF	N	Agri.	Fishing	Fishing	C	
4. John Branch	WF	N	Agri.	Fishing	Fishing	C	
5. Bear Branch	WF	N	Agri.	Fishing	Fishing	C	
a. Little Bear Branch	WF	N	Agri.	Fishing	Fishing	C	
6. Little Creek	WF	N	Agri.	Fishing	Fishing	C	
7. Sliding Knob Branch	WF	N	Agri.	Fishing	Fishing	C	
a. Bearwallow Branch	WF	N	Agri.	Fishing	Fishing	C	
8. Greasy Branch	WF	N	Agri.	Fishing	Fishing	C	
9. Friezeland Creek	WF	N	Agri.	Fishing	Fishing	C	
a. Tug Fork	WF	N	Agri.	Fishing	Fishing	C	
b. Bee Branch	WF	N	Agri.	Fishing	Fishing	C	
10. Sugar Camp Branch	WF	N	Agri.	Fishing	Fishing	C	
a. Rockhouse Branch	WF	N	Agri.	Fishing	Fishing	C	
11. Granger Branch	WF	N	Agri.	Fishing	Fishing	C	
12. Charlotte Branch	WF	N	Agri.	Fishing	Fishing	C	
13. Georgia Branch	WF	N	Agri.	Fishing	Fishing	C	
14. Baltimore Branch	WF	N	Agri.	Fishing	Fishing	C	
a. Panther Branch	WF	N	Agri.	Fishing	Fishing	C	

TABLE 5
RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
b. Whiterock Branch	WF	N	Agri.	Fishing	C	
c. Fall Branch	WF	N	Agri.	Fishing	C	
d. Greasy Branch	WF	N	Agri.	Fishing	C	
15. Caldwell Branch	WF	N	Agri.	Fishing	C	
16. Wooleyshot Branch	WF	N	Agri.	Fishing	C	
17. Meadow Fork	WF	N	Fishing	Fishing	C	Designated trout stream
a. Fall Branch	WF	N	Agri.	Fishing	C	
b. Maple Spring Branch	WF	N	Agri.	Fishing	C	
c. Shavery Branch	WF	N	Agri.	Fishing	C	
d. Little Creek	WF	N	Fishing	Fishing	C	
(1) Long Branch	WF	N	Agri.	Fishing	C	
(a) Buckeye Branch	WF	N	Agri.	Fishing	C	
e. Panther Branch	WF	N	Agri.	Fishing	C	
f. Roaring Fork	WF	N	Fishing	Fishing	C	
(1) Fall Branch	WF	N	Agri.	Fishing	C	
(2) Fisher Branch	WF	N	Agri.	Fishing	C	
(3) Catpen Branch	W	N	Fishing	Fishing	C	
(4) Hickory Ridge Branch	W	N	Fishing	Fishing	C	
(5) Skiffly Branch	W	N	Fishing	Fishing	C	
g. Hopis Branch	W	N	Agri.	Fishing	C	
18. Charley Branch	WF	N	Agri.	Fishing	C	
a. Beck Branch	WF	N	Agri.	Fishing	C	

TABLE 5
RECOMMENDED CLASSIFICATIONS
FRENCH BROAD RIVER DRAINAGE AREA

Stream	Character of		Condition of Water	Chief		Best Usage	Proposed Class	Remarks
	District	of		Present Usage				
b. Wildcat Branch	WF		N	Agri.	Fishing	C		
19. Steve Branch	WF		N	Agri.	Fishing	C		
20. Puncheon Camp Branch	W		N	Fishing	Fishing	C		
a. Coonpatch Branch	W		N	Fishing	Fishing	C		
21. Long Mountain Branch	W		N	Fishing	Fishing	C		
22. Squirrel Branch	W		N	Fishing	Fishing	C		
23. Racoon Branch	W		N	Fishing	Fishing	C		
24. Bear Branch	W		N	Fishing	Fishing	C		
a. Little Bottom Branch	W		N	Fishing	Fishing	C		
25. Reservoir Branch	W		N	Fishing	Fishing	C		
V. Spring Creek below Reservoir Branch		Res.	P	Ind. WS	Ind. WS	D		
W. Trent Branch	WF		N	Agri.	Agri.	D		
X. Flint Level Branch	WF		N	Agri.	Agri.	D		
Y. Blood River	WF		N	Agri.	Agri.	D		
Z. Jack Branch	WF		N	Agri.	Agri.	D		
AA. Shut-in Creek	WF		N	Fishing	Fishing	C		Designated trout stream
1. West Fork	W		N	Fishing	Fishing	C		
a. Mink Branch	W		N	Fishing	Fishing	C		
2. East Fork	W		N	Fishing	Fishing	C		
3. Jones Branch	W		N	Fishing	Fishing	C		
4. Clear Branch	W		N	Fishing	Fishing	C		
5. Dry Branch	WF		N	Agri.	Fishing	C		
BB. Murray Branch	W		N	Fishing	Fishing	C		
CC. Davis Branch	WF		N	Agri.	Agri.	D		
DD. Clover Branch	WF		N	Agri.	Agri.	D		
EE. Grass Branch	WF		N	Agri.	Agri.	D		

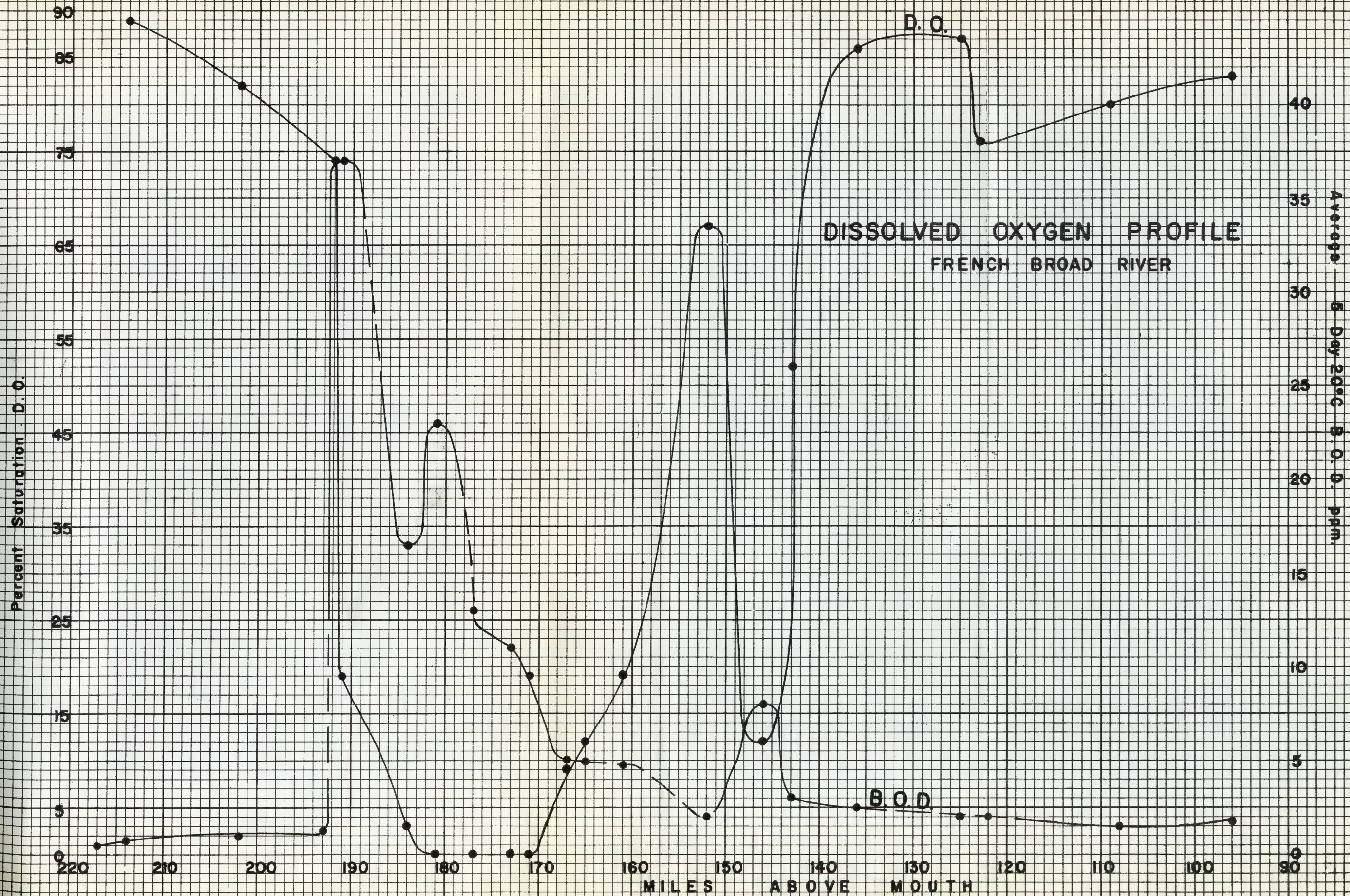


TABLE 5
RECOMMENDED CLASSIFICATIONS

COLIFORM DENSITY FRENCH BROAD RIVER

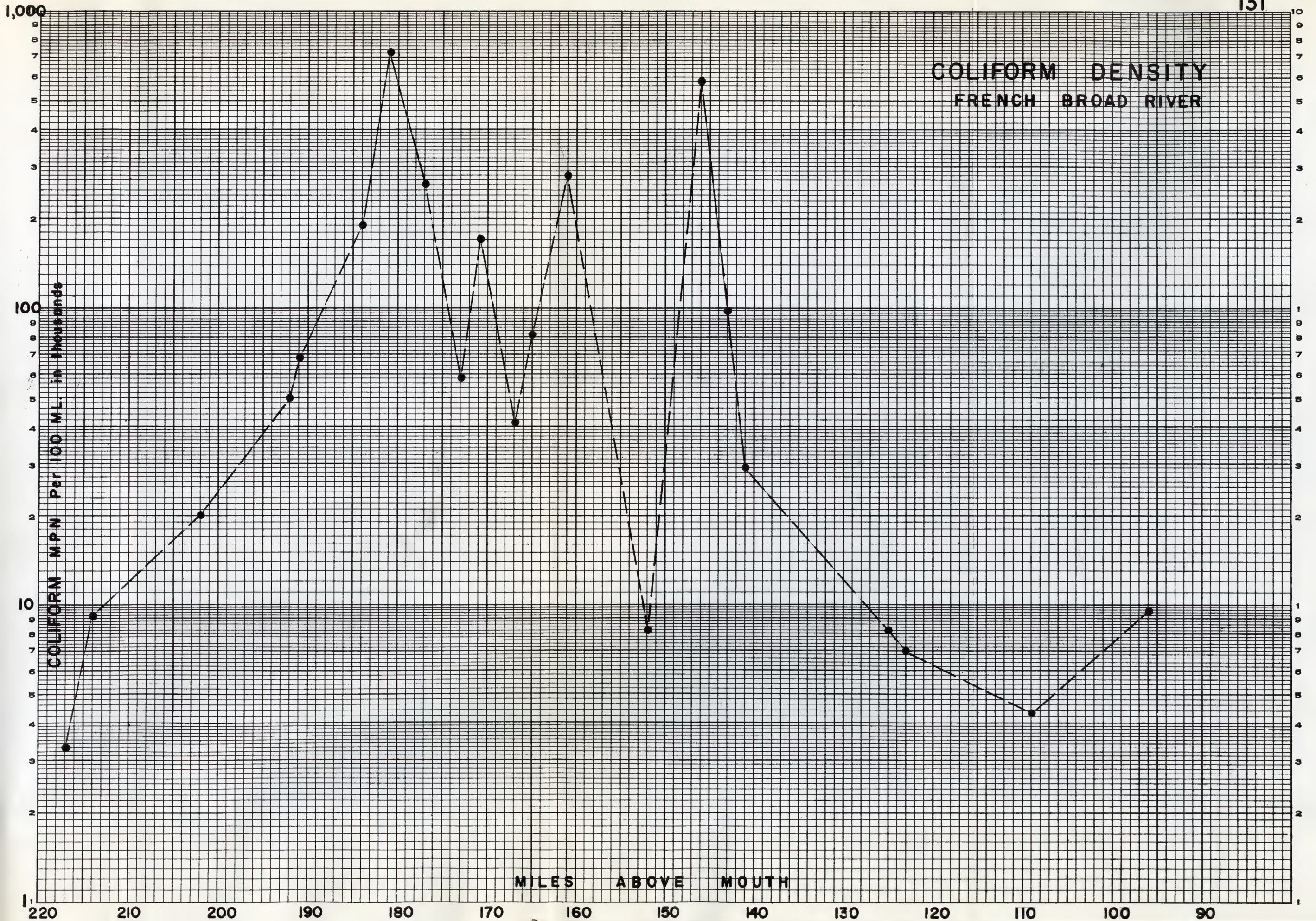
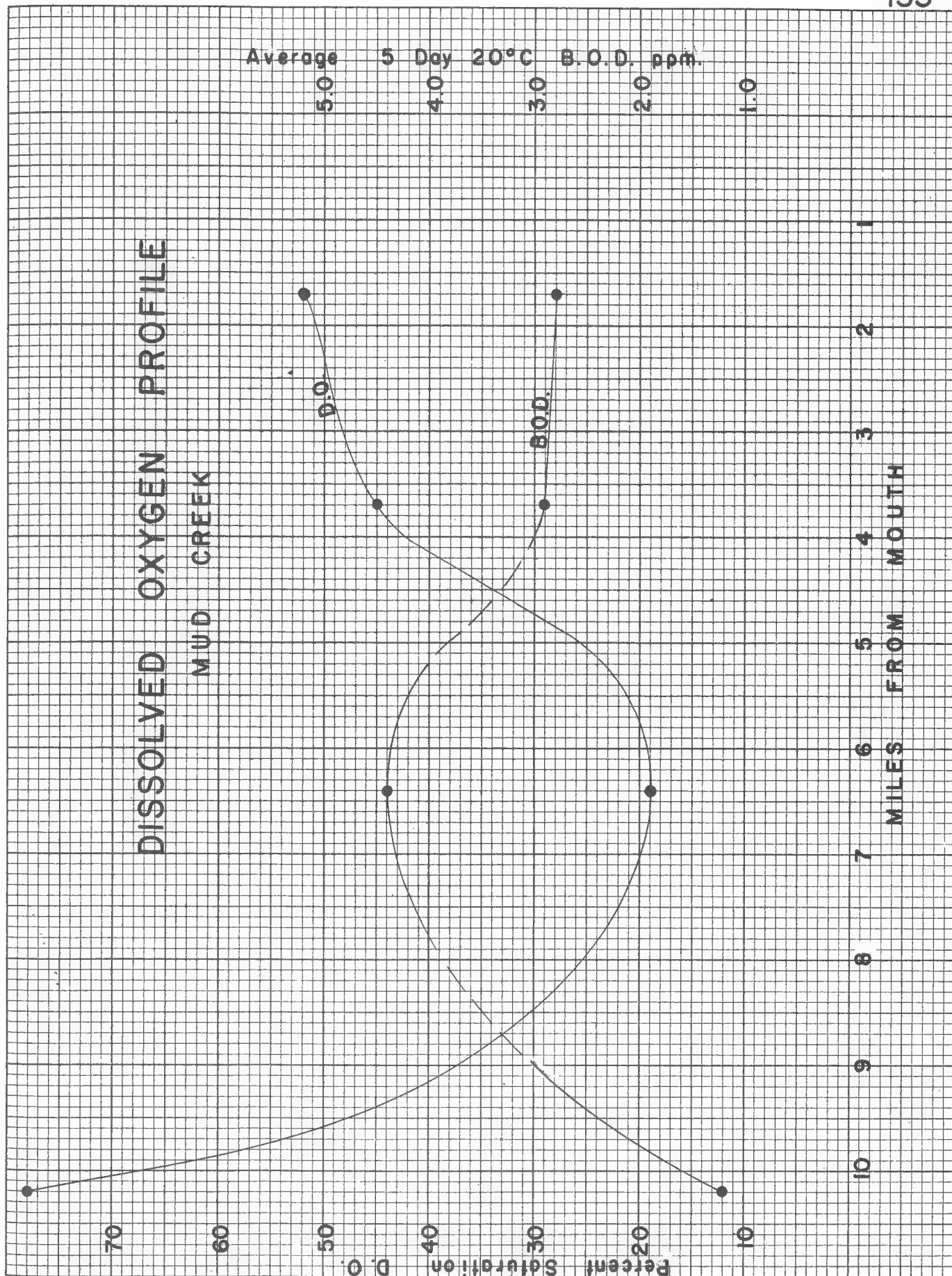
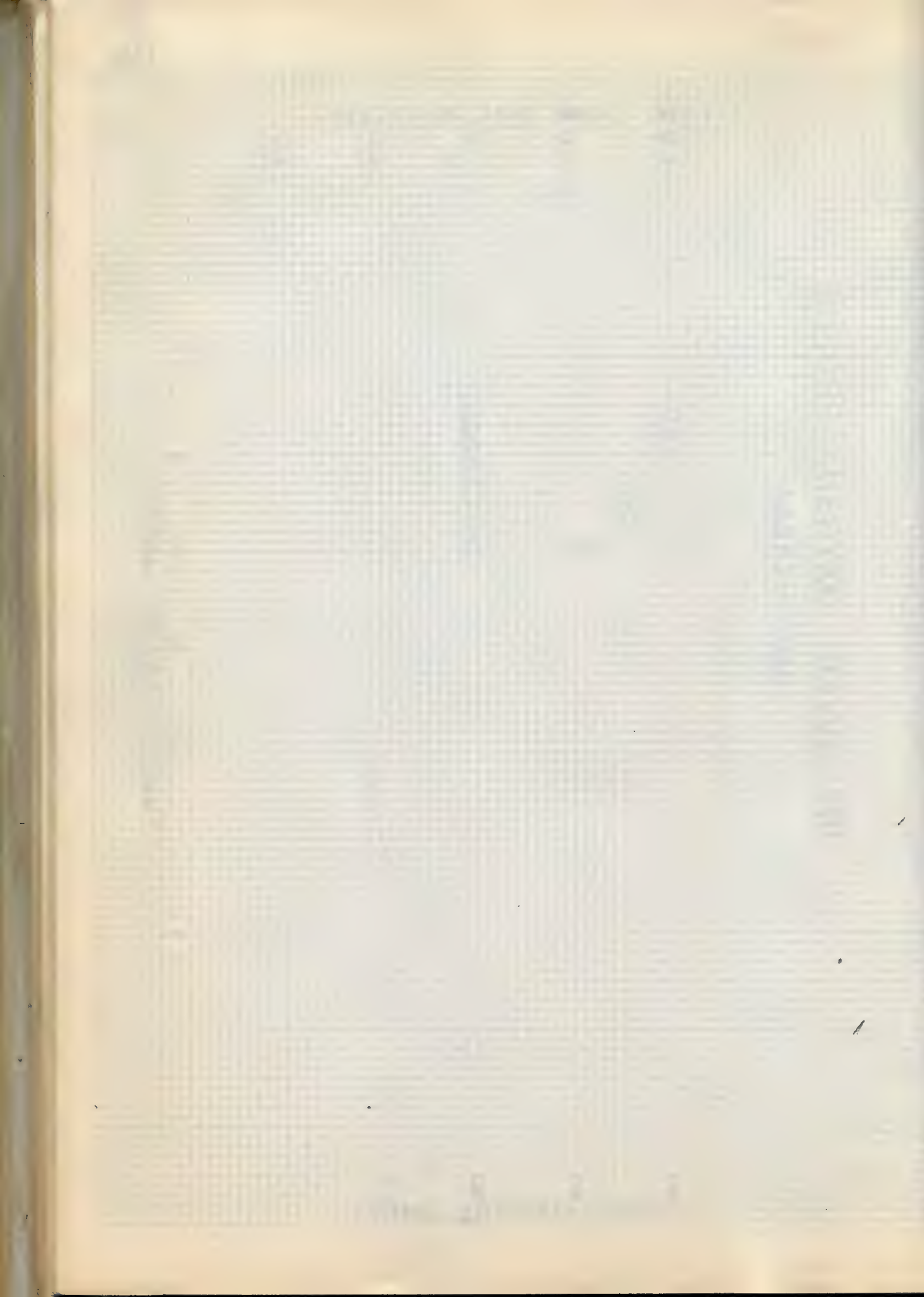
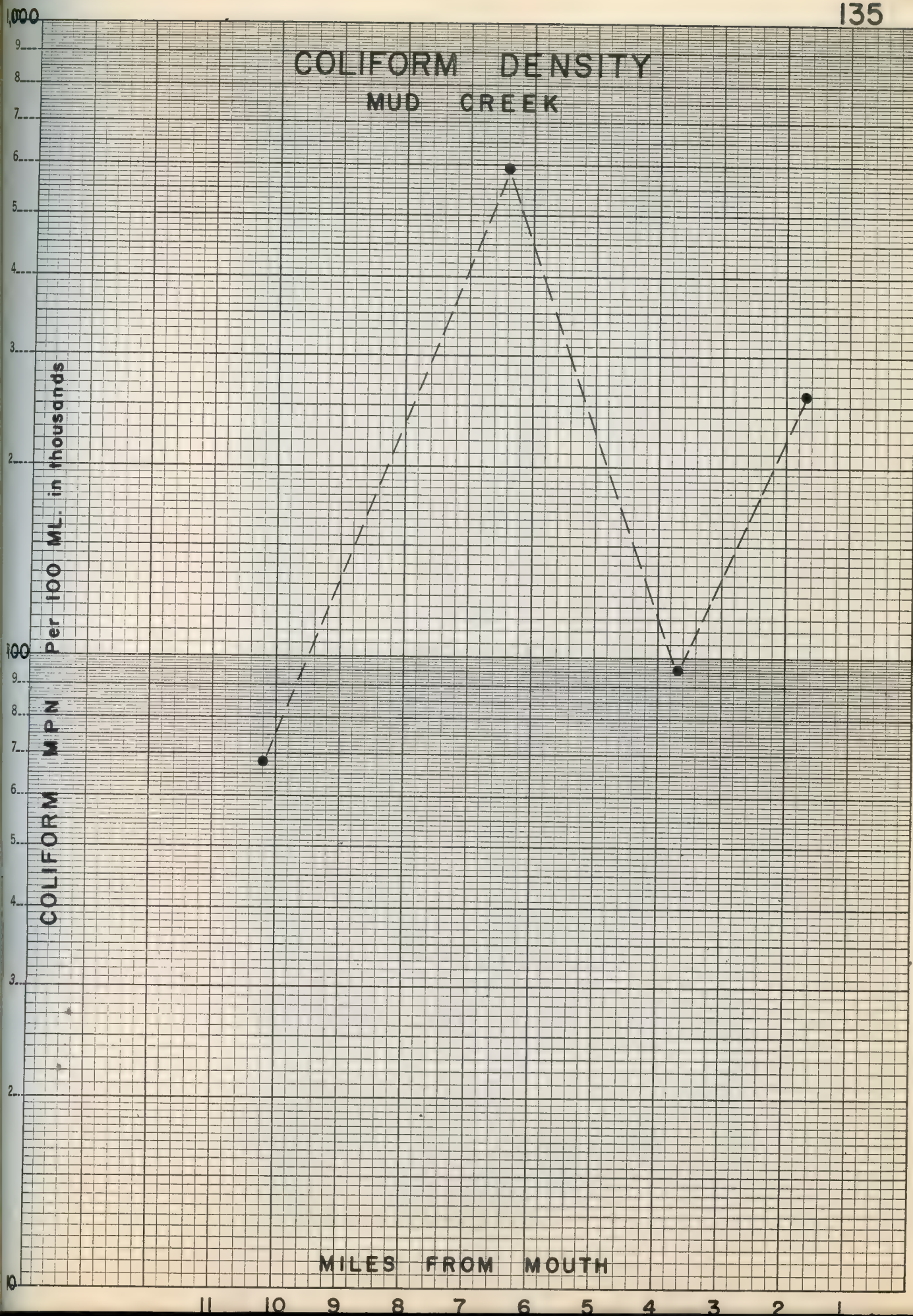


TABLE 5
RECOMMENDED CLASSIFICATIONS





COLIFORM DENSITY MUD CREEK



DISSOLVED OXYGEN PROFILE

HOMINY CREEK

Average 5 Day 20°C B.O.D. ppm.

30.0
25.0
20.0
15.0
10.0
5.0

0

1

2

3

4

5

6

7

8

9

MILES FROM MOUTH

Percent Saturation D.O.

20

10

D.O.

40

50

60

70

80

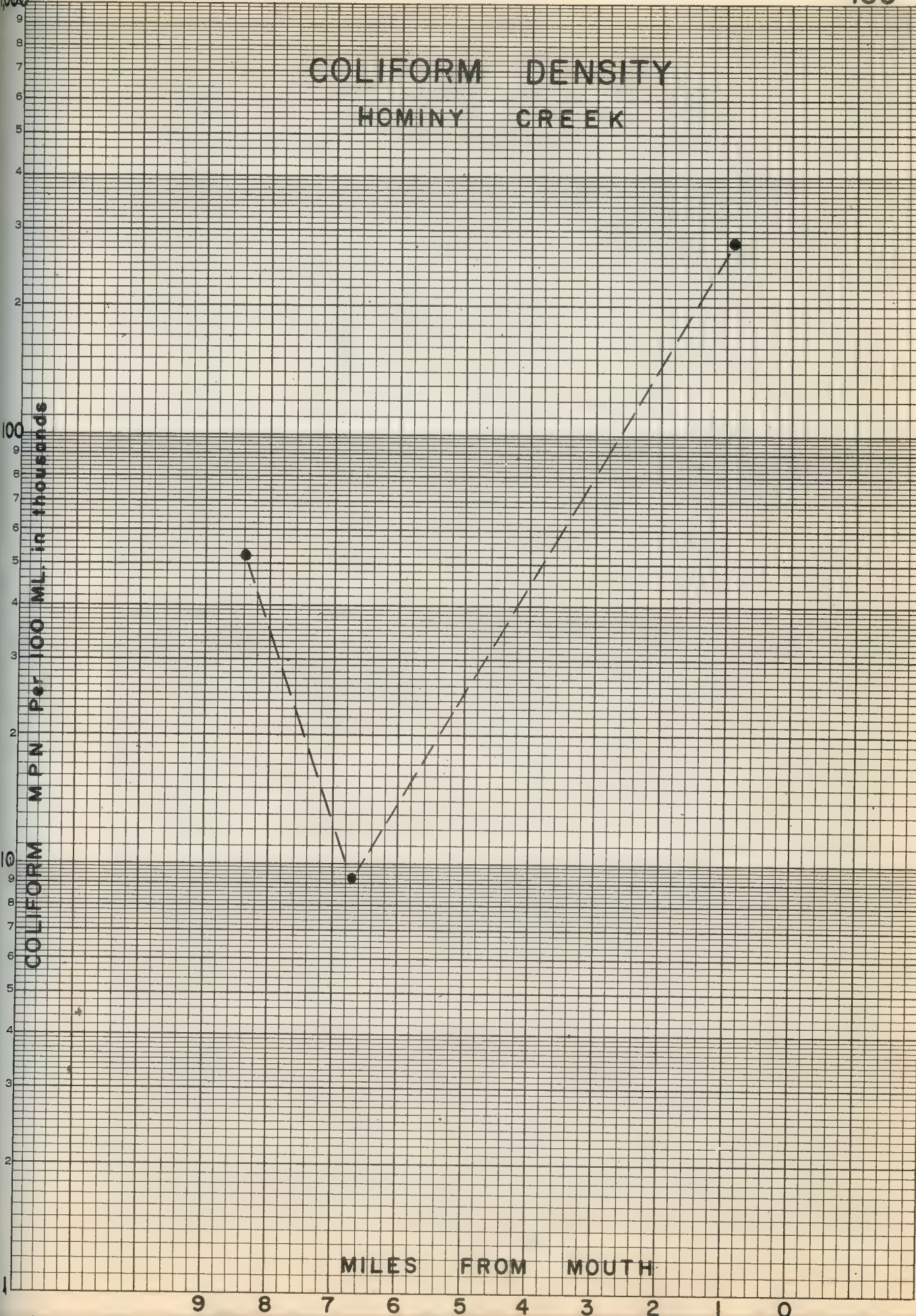
B.O.D.

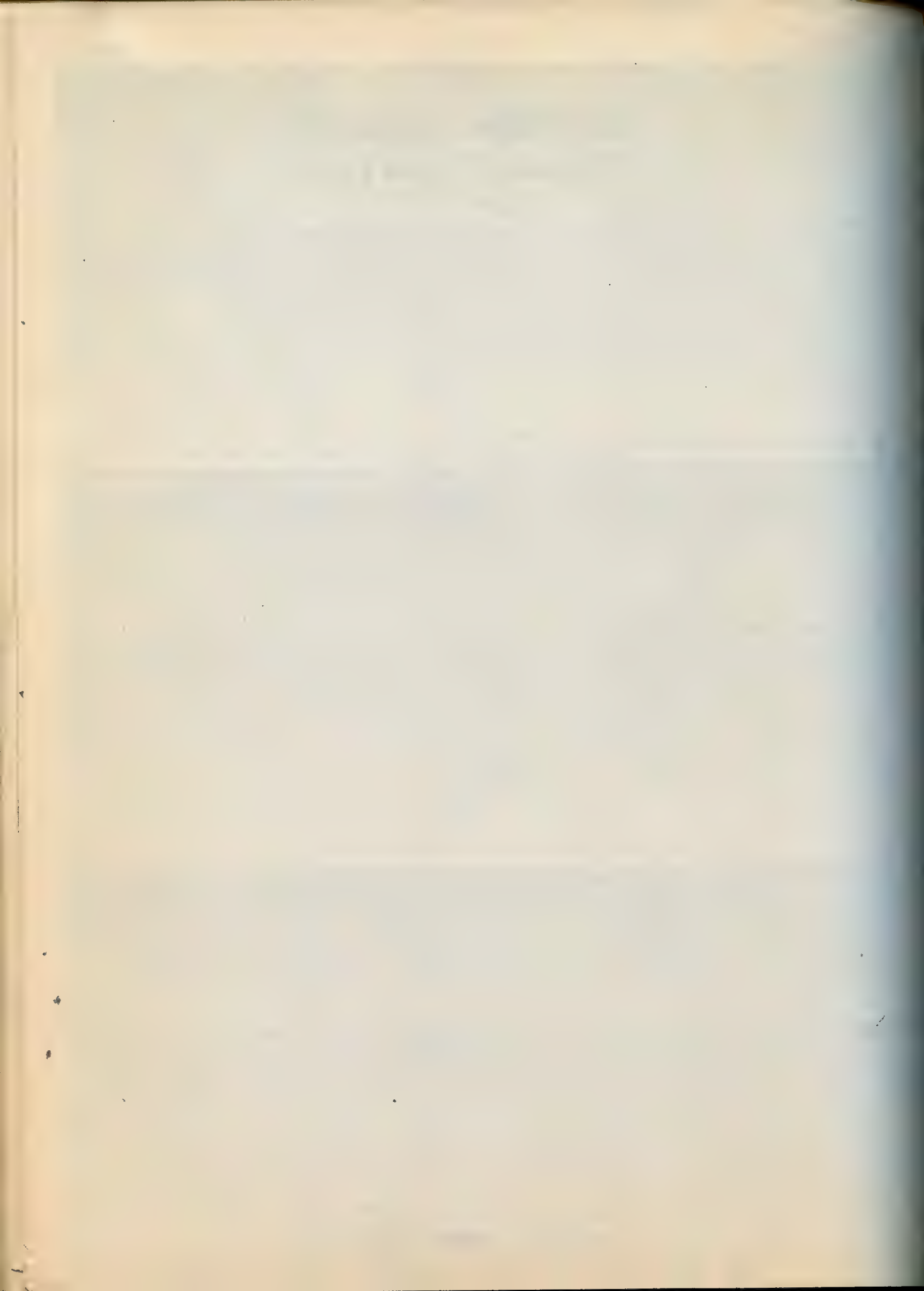
D.O.

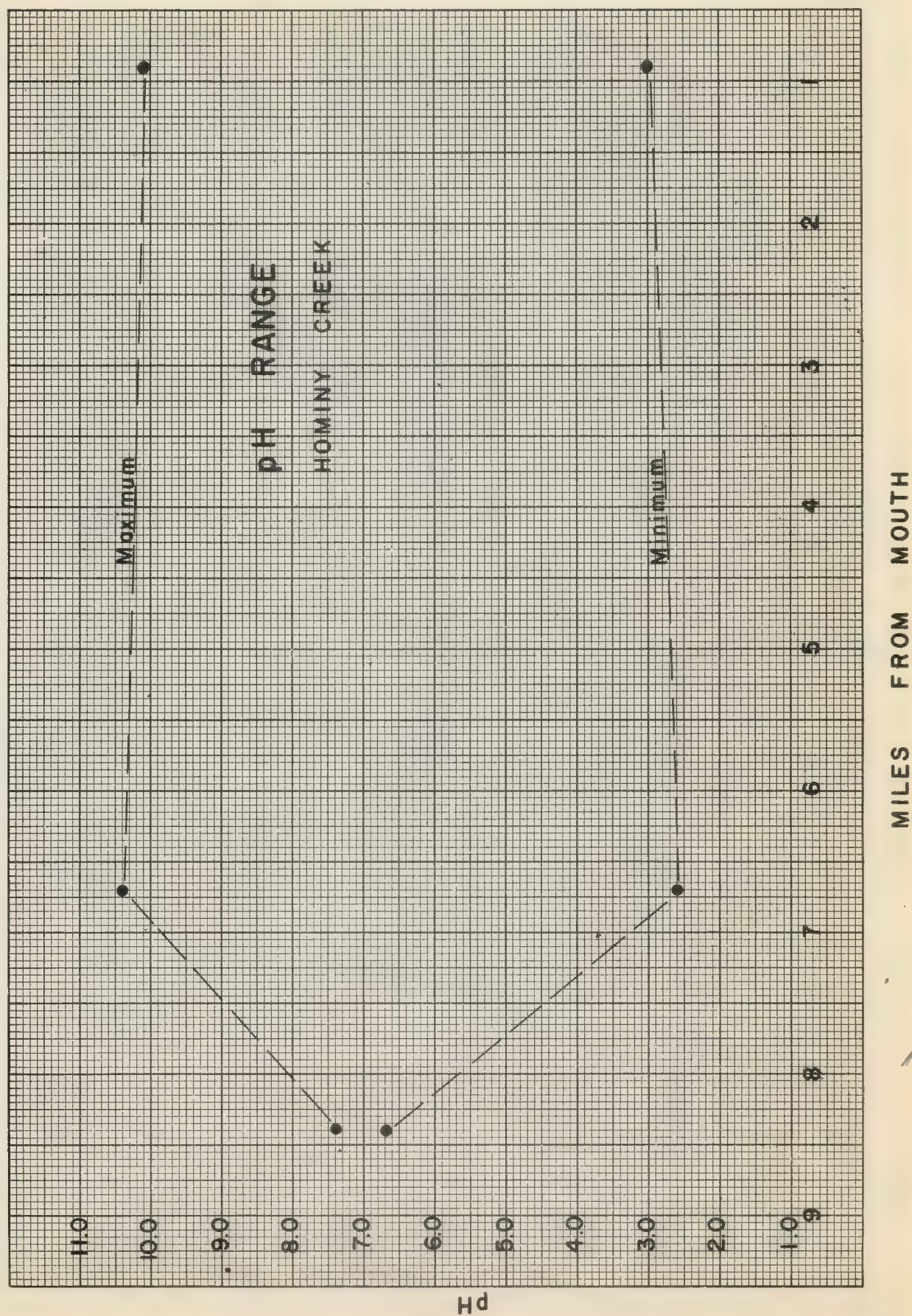
COLIFORM DENSITY
HOMINY CREEK

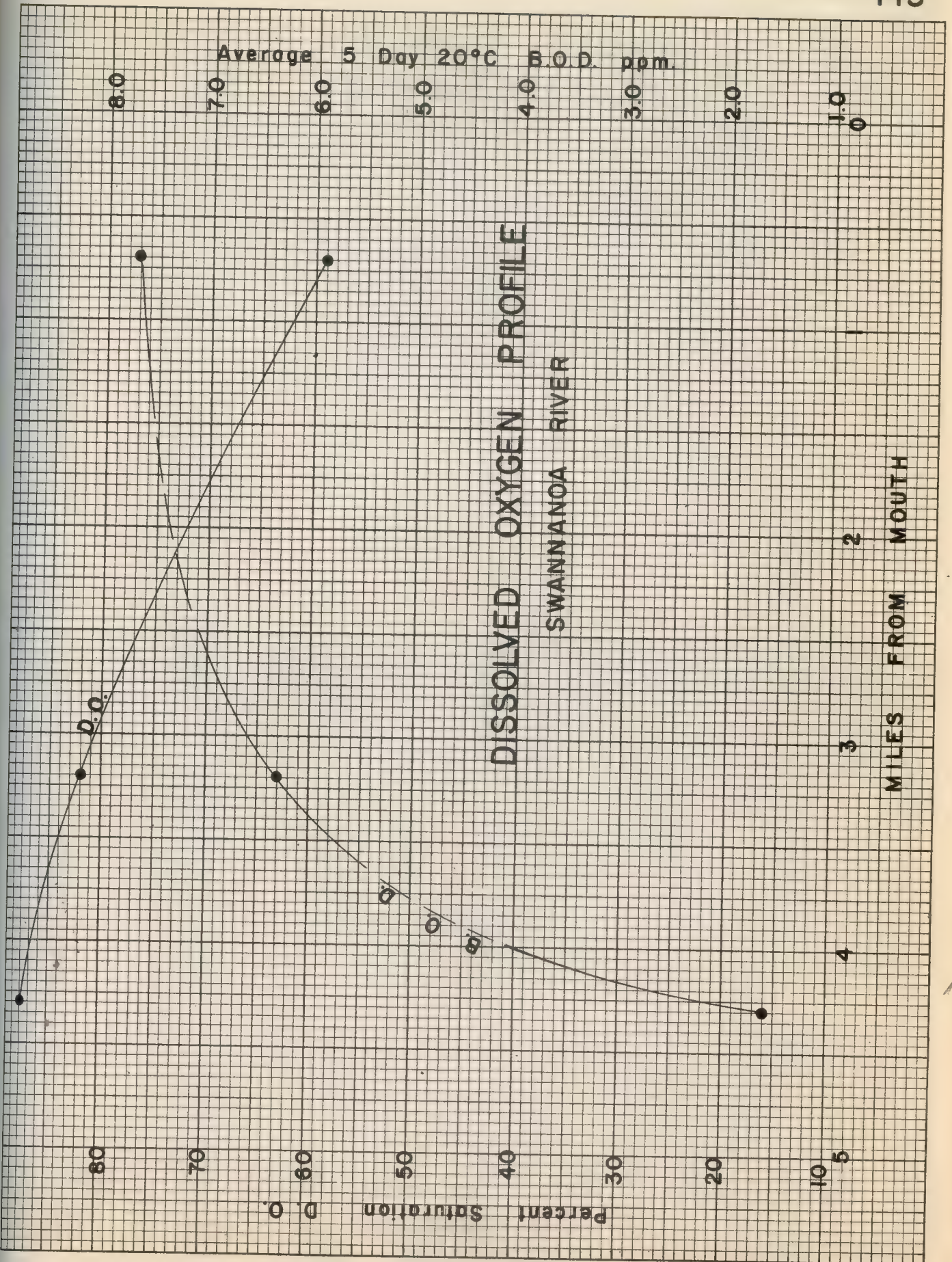
COLIFORM MPN Per 100 ML. in thousands

MILES FROM MOUTH





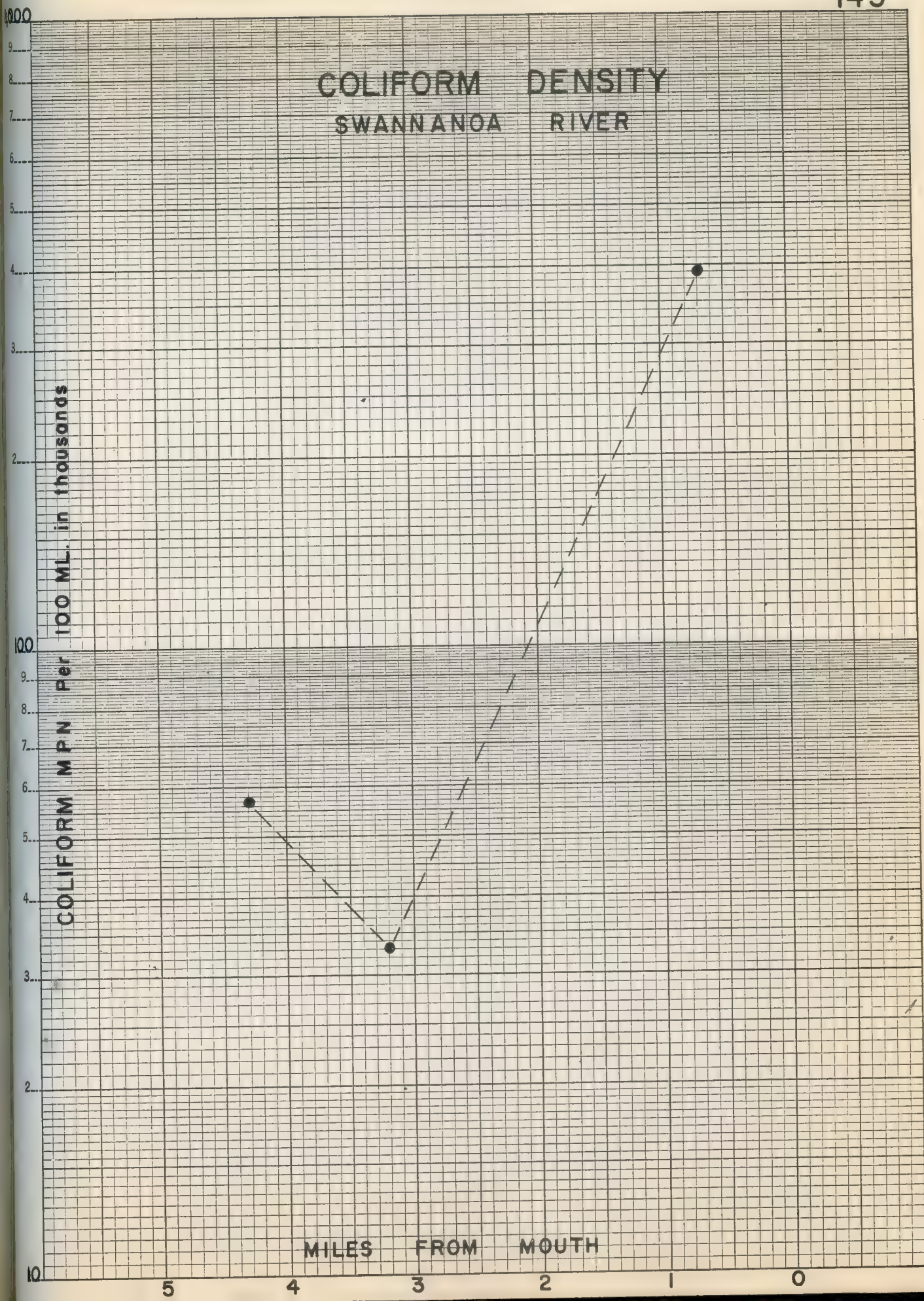


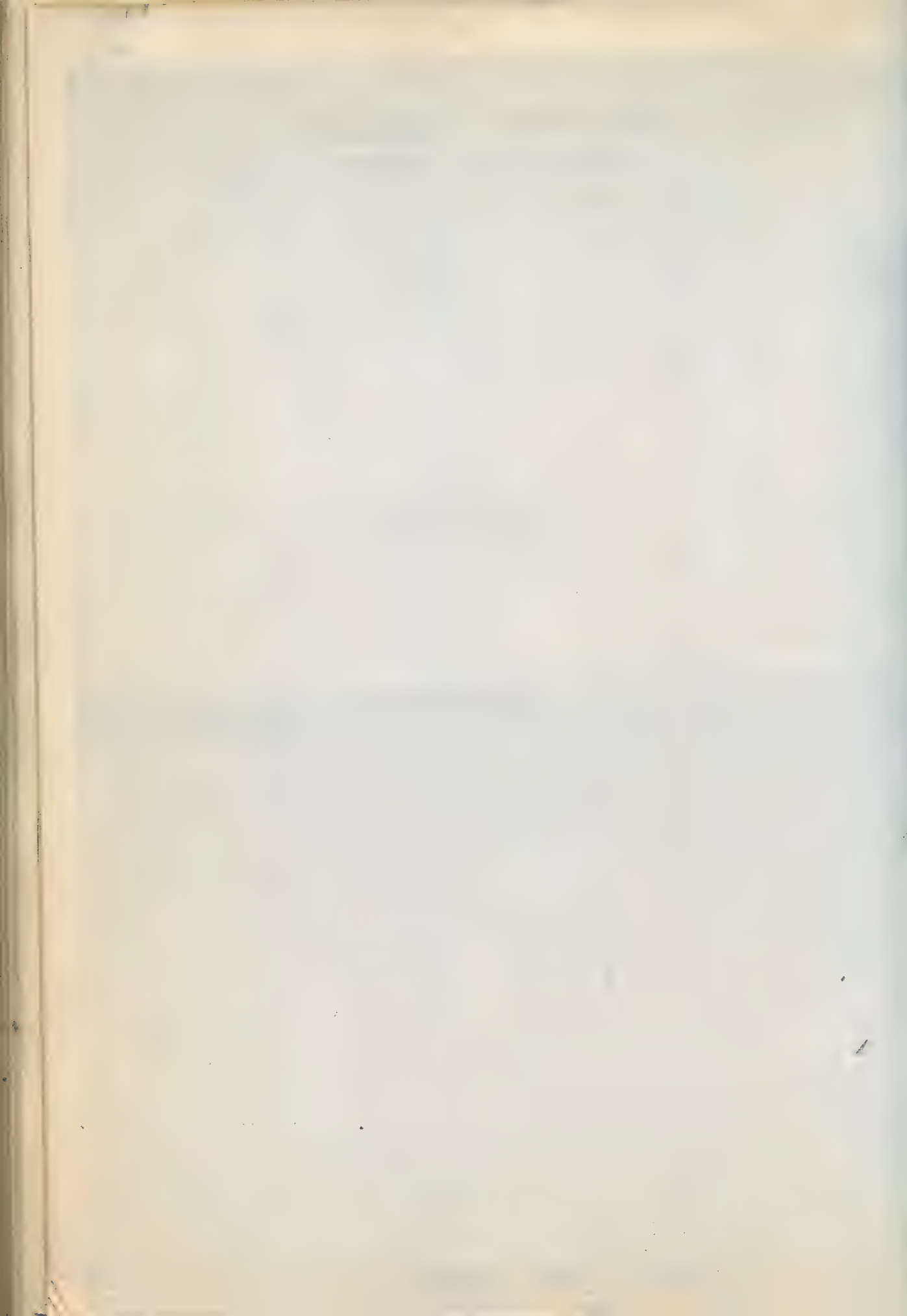


COLIFORM DENSITY SWANNAHOA RIVER

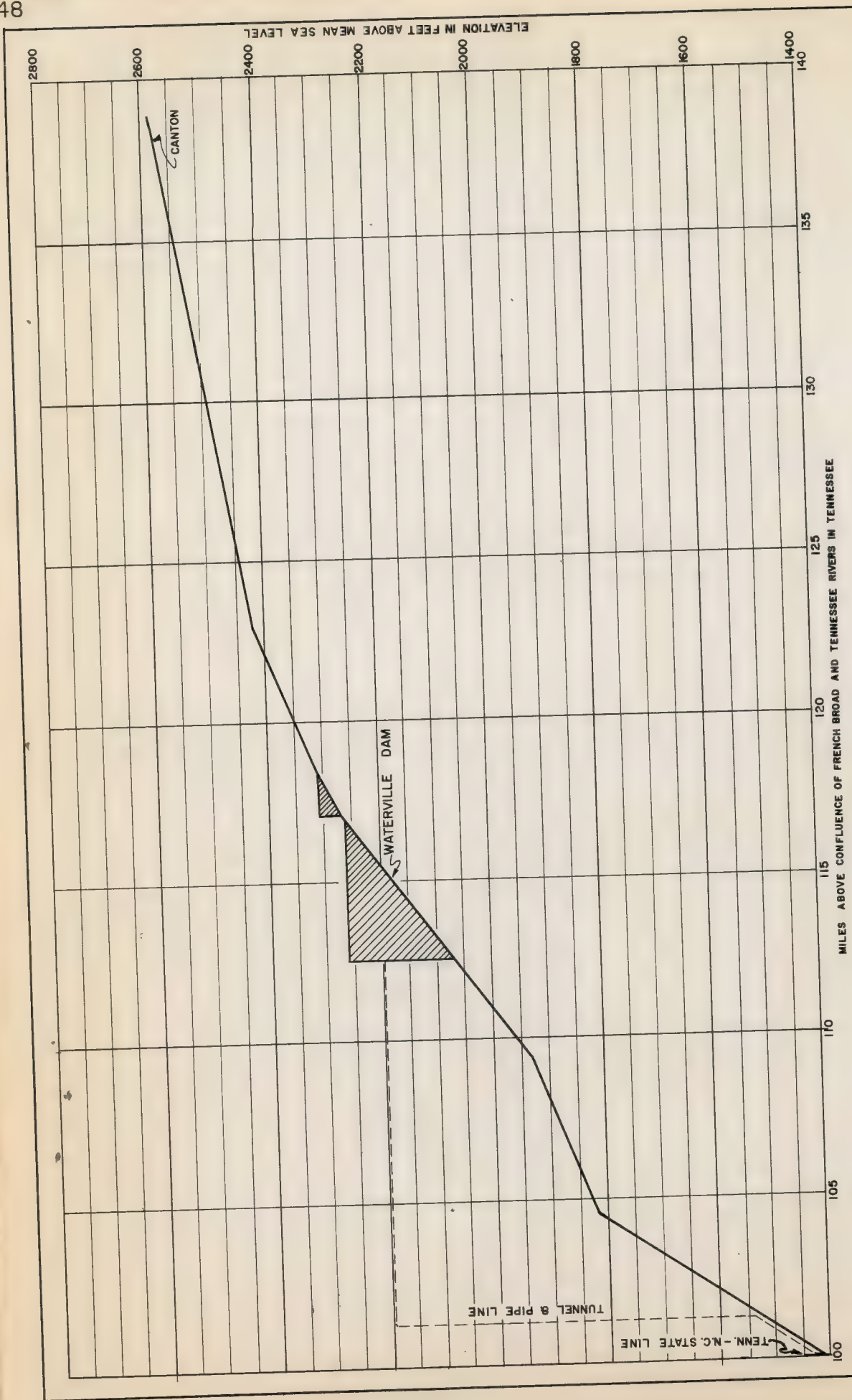
COLIFORM MPN
Per 100 ML. in thousands

MILES FROM MOUTH









CONDENSED PROFILE
OF
PIGEON RIVER
IN
NORTH CAROLINA

SECTION II

PIGEON RIVER DRAINAGE AREA

Land Characteristics and Uses

The Pigeon River has its origin in Haywood County and flows across the State to enter Tennessee near Newport, Tennessee. The topography of the area is characterized by mountains having sharp crests, steep slopes, and spurs extending in all directions. In places near the bases of mountains and in coves the relief may be fairly level, but such areas are small and scattered throughout the area. Elevations above sea level vary widely - the highest point, Mt. Guyot is 6,621 feet; the lowest, where the Pigeon River flows into Tennessee, is 1,400 feet.

The river is a rather quiet stream from its source to about ten miles below Canton. Lower down, however, it becomes a rapid, rushing stream, flowing in a deep, narrow, rock-bound gorge. In the distance from Canton to Tennessee, the river falls approximately 1,300 feet, or twenty-six feet to the mile.

Seventy-two per cent of the watershed area is covered with woodland. Of the woodland area, twenty-five per cent is in National Forest and twenty-three per cent is in the Great Smoky Mountain National Park. Of the non-forest land in the area, twenty-nine per cent is cultivated. Most of the arable land in the area is found in the valleys along the streams. Corn is the most important crop in acreage; however, tobacco is the most important cash crop.

Livestock husbandry is an important agricultural pursuit. Permanent and plowable pasture in 1950 occupied a total of 108,254 acres.

Existing Stream Uses

Surface water is the principal source of municipal, industrial, and agricultural water supplies throughout the area. Streams serve as the source of water supply for the municipalities of Canton, Clyde, Hazlewood, Waynesville, and Lake Junaluska. The Pigeon River is the source of the process water used by the Champion Paper and Fiber Company Plant at Canton. Allen Creek provides the process water used by the Dayton Rubber Company Plant and the A. C. Lawrence Leather Company Plant at Waynesville. Other industries in the area purchase their process water from municipalities.

The area is an important center of mountain resort activities. Recreational facilities include provisions for swimming, fishing, camping, and picnicking. There are many camps in the area providing recreational activities for scores of boys and girls. Twenty-three per cent of the drainage area is in the Great Smoky Mountain National Park which annually attracts thousands of tourists. Picnic areas in both the Great Smoky Mountain National Park and the National Forest are in constant demand. The scenic beauty of the entire area lures many to the numerous trails.

Fishing is prevalent in many of the smaller unpolluted streams of the area as well as the headwaters of the Pigeon River. The N. C. Wildlife Resources Commission annually stocks many of the streams of the area with trout. Bass and bream are common to the area.

Agricultural water uses include both livestock watering and irrigation. The use of streams as a source of water is of particular significance due to the importance of the area as a leader in both dairying and livestock grazing. The practice of irrigating both pasture land and field crops has increased tremendously since 1950. Information supplied by Farm Agents and Soil Conservation Agents indicates that this practice will continue to increase.

There are two electric power projects on the Pigeon River. The Champion Paper & Fiber Company operates steam driven turbines that generate 50,000 K.W. of electricity per hour. The Carolina Power and Light Company operates a 135,000 H.P. hydroelectric plant on Pigeon River.

The Pigeon River and its tributaries are used for sewage and industrial waste disposal. Wastes are discharged into the drainage system at Canton, Clyde, Hazlewood, Waynesville, and Lake Junaluska. The sources of pollution are discussed below:

Town of Canton discharges untreated sewage into Pigeon River through six outfalls. The Canton sewer system serves an estimated population of 5,000 persons and contributes a major portion of the bacteriological pollution to the river.

Champion Paper and Fiber Company discharges industrial waste into Pigeon River that is estimated to be equivalent in strength to domestic sewage from a population of 624,000 persons. This waste, being highly colored as well as high in oxygen demand, reduces the dissolved oxygen in the stream to zero. Dissolved oxygen determinations run during the period July 21 - September 15, 1954, show that dissolved oxygen in Pigeon River was zero for a distance of approximately fifteen miles downstream. The absence of dissolved oxygen destroys the normal stream flora and fauna and results in the development of obnoxious odors.

Clyde discharges untreated sewage into Pigeon River from an estimated population of 150 persons. This waste is of significance only from the standpoint of adding pollution to an already seriously polluted stream.

Waynesville - Hazlewood - Lake Junaluska Outfall - An outfall sewer, owned jointly by the municipalities of Waynesville, Hazlewood, and Lake Junaluska, carries the domestic sewage and industrial waste collected by the municipal sewer systems to the Pigeon River. This outfall serves an estimated population of 9,000 persons and discharges untreated sewage and industrial waste that is estimated to be equal in strength to domestic sewage from a population of 26,290 persons. The A. C. Lawrence Leather Company, the Pet Milk Company and the McKay Abattoir contribute industrial waste that is estimated to be equal in strength to domestic sewage from a population of 17,290 persons, whereas the remainder of the load is contributed by domestic sewage from an estimated population of 9,000 persons. This waste adds to the color in an already badly discolored stream as well as adds a great amount of oxygen consuming materials to a stream that is already devoid of dissolved oxygen.

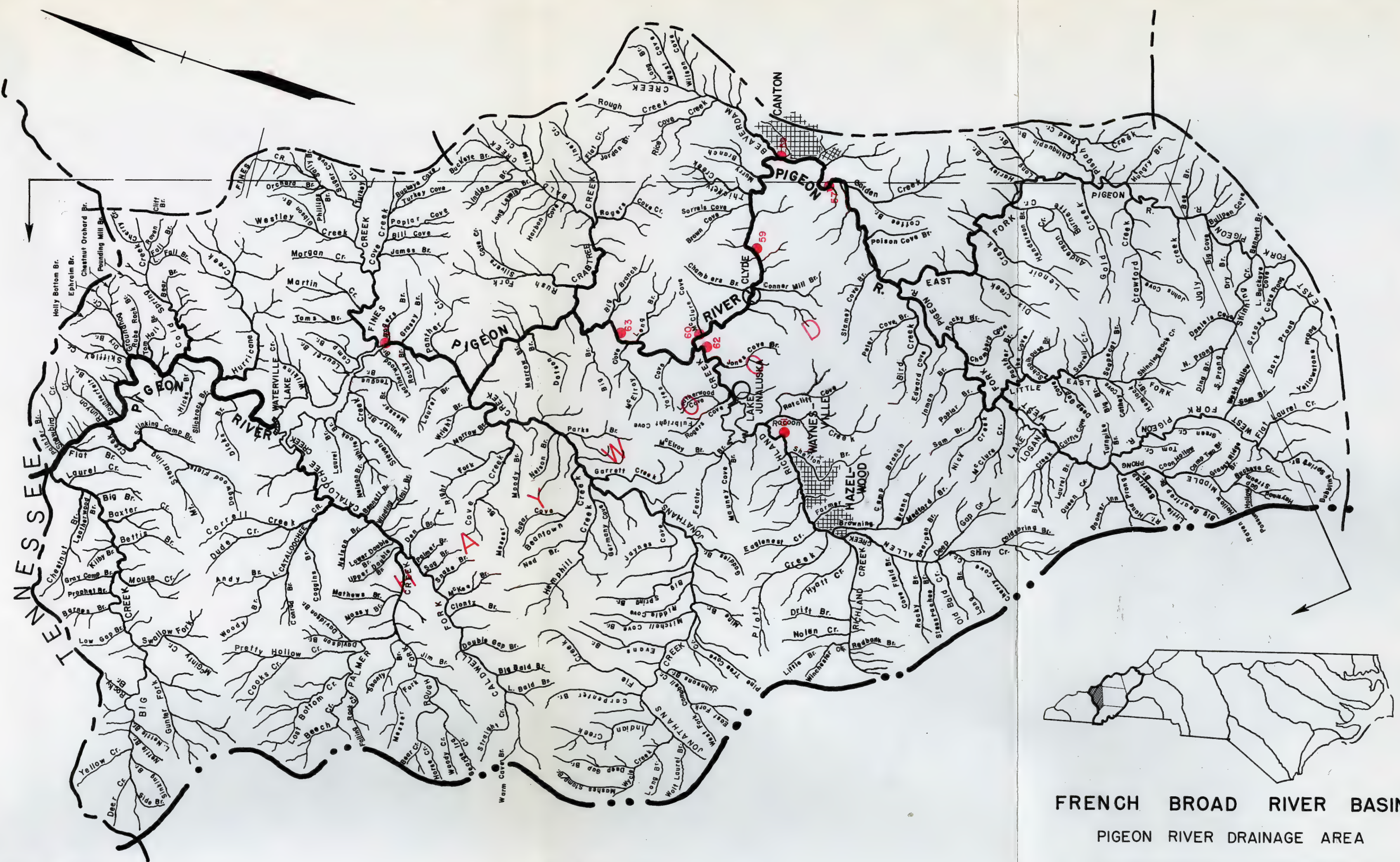
Dayton Rubber Company discharges cooling water and wash water to Richland Creek; however, soaps or detergents are not used in their washing process. Even though the volume of these waters is large, they have no deleterious effect on the receiving stream.

Rock Hill School, Haywood County, enrollment approximately 200, discharges raw sewage into Jonathans Creek. Jonathans Creek has been stocked with trout and designated as trout waters by the N. C. Wildlife Resources Commission. This waste is deleterious to fish life and should receive treatment before being discharged into the stream.

Fines Creek High School, Haywood County, enrollment 372, discharges untreated sewage into Fines Creek.

Potential Future Development

Due to the scenic nature of the area, the greatest potential future development will probably be in the realm of tourist and recreational activities. The recreational resources of the area should be diligently safeguarded. The unpolluted waters of the small tributary streams could be used as a source of high quality process water by industry.



STATE STREAM SANITATION COMMITTEE
N. C. STATE BOARD OF HEALTH
RALEIGH, N. C.
1955

FRENCH BROAD RIVER BASIN
PIGEON RIVER DRAINAGE AREA
GEOGRAPHIC LOCATIONS
OF SAMPLING STATIONS



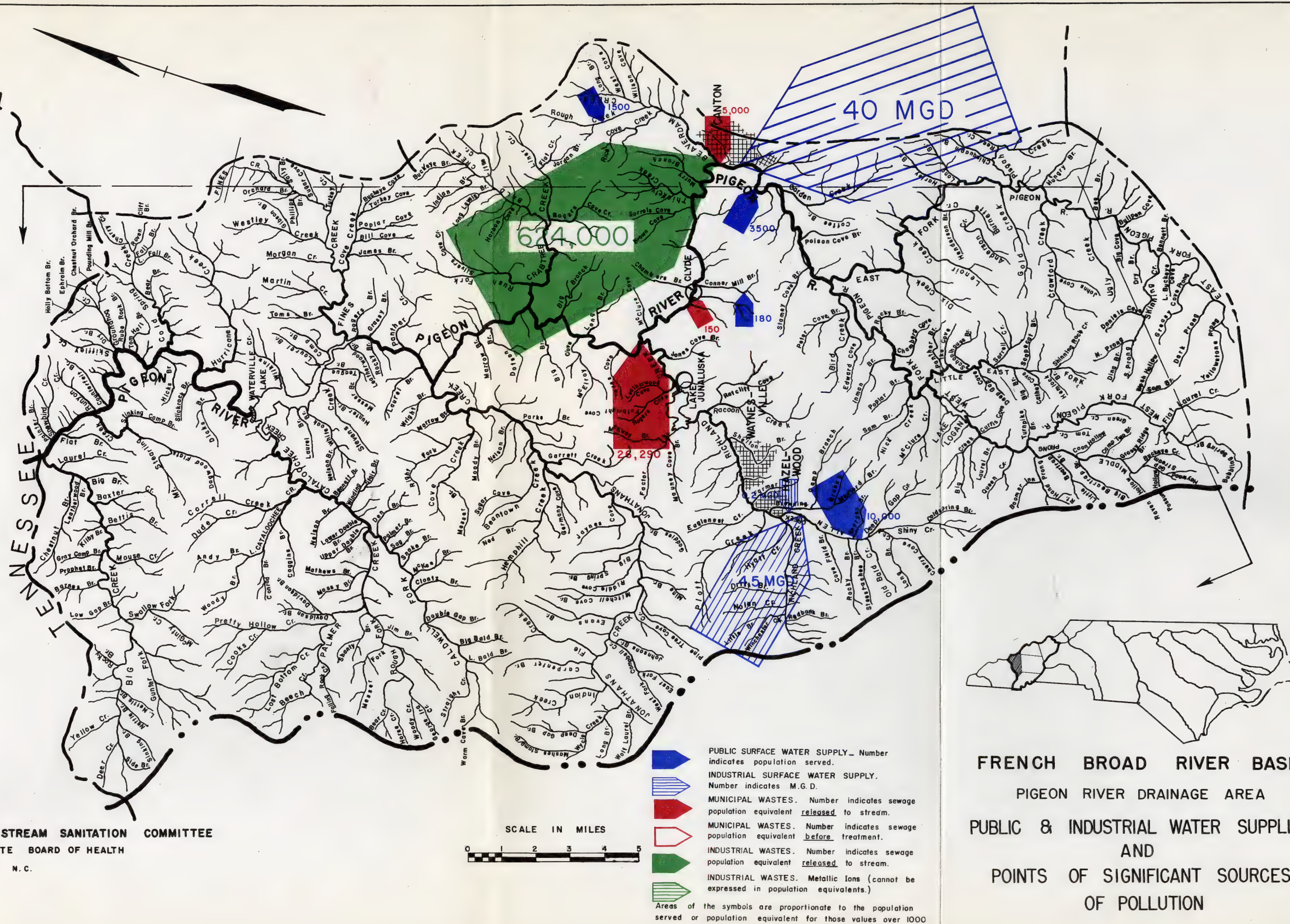
TABLE 6
LOCATIONS OF SAMPLING POINTS AND GAGING STATIONS
PIGEON RIVER DRAINAGE AREA

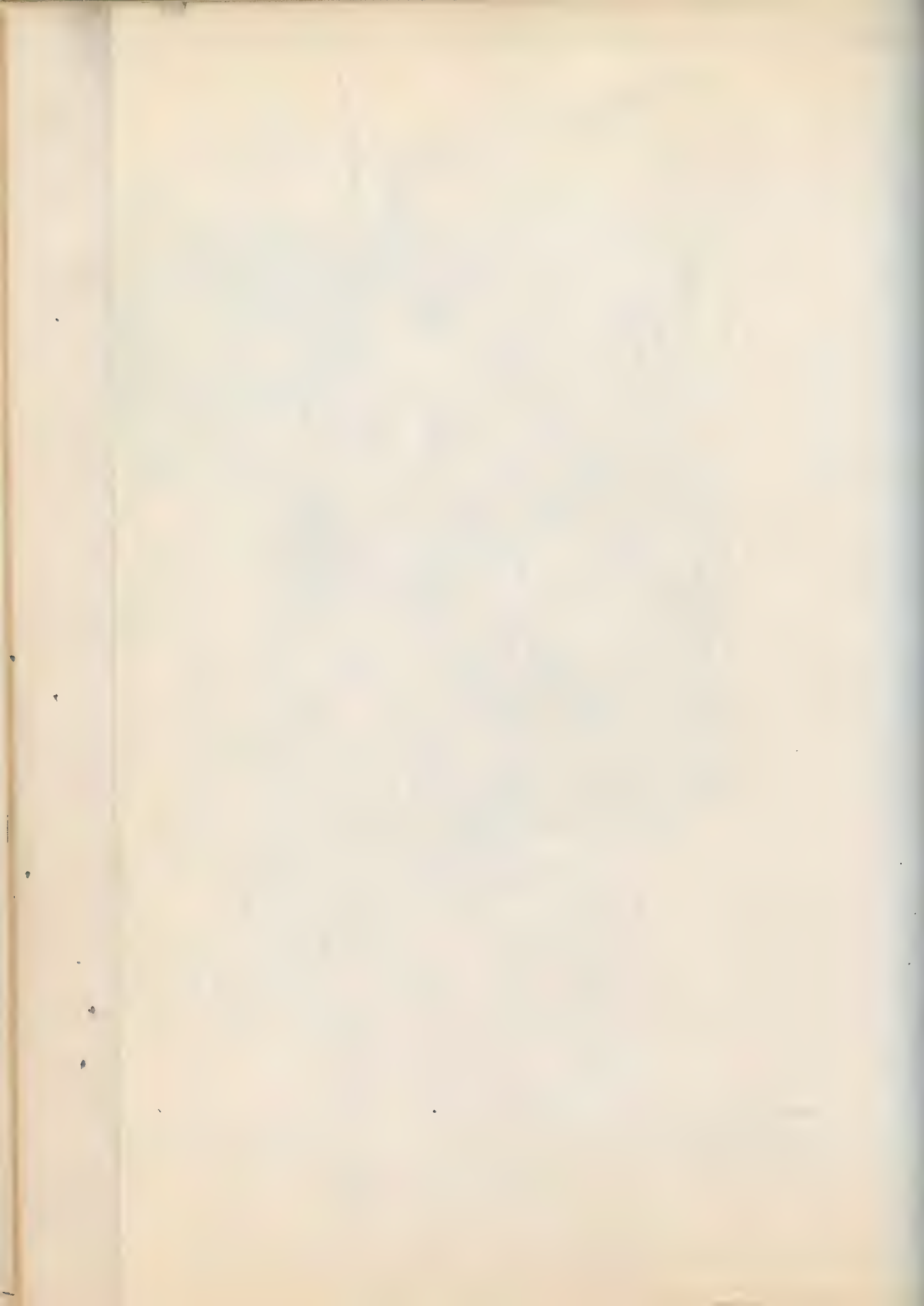
Sta. No.	Location	Stage Ref.	Miles from River Mouth or Mouth of Tributary	Drainage Area in Sq. Miles
57	Pigeon River at Canton	R.	63.9	133.0
58	Pigeon River near Canton		62.9	
59	Pigeon River near Clyde		59.0	
60	Pigeon River near Lake Junaluska		55.4	167.0
	Allen Creek near Hazelwood	R.	3.0	14.4
61	Richland Creek near Waynesville	R.P.	4.7	48.0
62	Richland Creek near Clyde	R.P.	0.2	68.4
63	Pigeon River near Crabtree		52.2	243
	Jonathans Creek near Cove Creek	R.	0.7	65.3
64	Pigeon River near Hepco	R.	45.0	350
	Cataloochee Creek near Cataloochee	R.		49.2

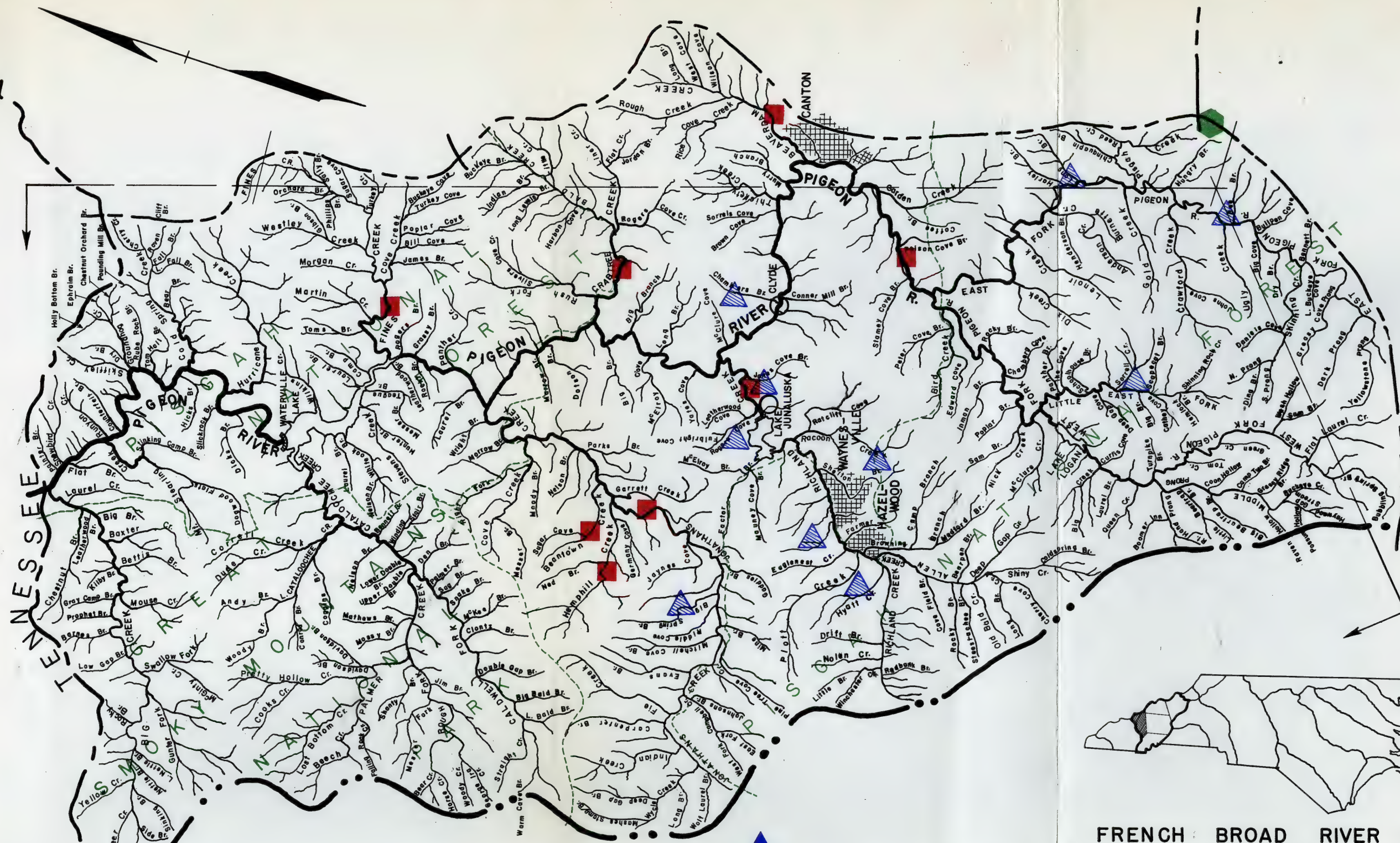
Stage Reference

R. - Recording Gage
R.P. - Reference Point

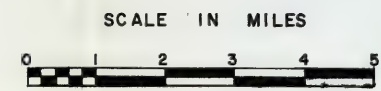








STATE STREAM SANITATION COMMITTEE
N. C. STATE BOARD OF HEALTH
RALEIGH, N. C.
1955



-  CAMP SITE using surface water for drinking.
-  CAMP SITE using water from springs and wells for drinking.
-  PUBLIC RECREATIONAL AREA.
-  NATIONAL FOREST BOUNDARY. (Approximate)
-  IRRIGATION. General area from which water was taken.

FRENCH BROAD RIVER BASIN
PIGEON RIVER DRAINAGE AREA

RECREATION AREAS
AND
SOURCES OF IRRIGATION WATER



TABLE 7

PUBLIC AND INDUSTRIAL SURFACE WATER SUPPLIES

PIGEON RIVER DRAINAGE AREA

Community or Industry	Pop. 1950	Est. Pop. Served	Avg. M.G.D. Used	Owner- ship	Source of Supply	Date In- stalled	Water Treatment Facilities	
							Design Capacity (M.G.D.)	Treatment Processes
Canton	4,906	5,000	0.75	M	Pigeon River & Rough Creek	1936	2.7	Coag., Sed., Filter, Cl_2
Champion Paper Co.	-	-	40.0	P	Pigeon River	-	-	Coag., Sed.
Clyde	598	180	0.04	M	Connors Mill Branch	1925	0.144	Coag., Sed., Filter, Cl_2
Dayton Rubber Co.	-	-	4.3	P	Allen Creek	-	-	-
Hazlewood	1,769	1,800	-	-	See Waynesville	-	-	-
Lake Junaluska	400	W- 250 S-5,000	-	-	See Waynesville	-	-	-
A. C. Lawrence	-	-	0.2	P	Allens Creek	-	-	-
Leather Co.	-	-	1.2	M	Allens Creek	1907	-	Coag., Sed., Filter, Cl_2
Waynesville	5,295	10,000	-	-	-	-	-	-

TABLE 9

ANALYTICAL RESULTS

PIGEON RIVER DRAINAGE AREA

Collected Date Time 1954	Temp. °C	D. O.		Dis. cfs	B. O. D.		Alkalinity Phenol. M.O.	pH	Cl ⁻	Hard- ness	Color True	Tur- bidity	Coliform M.P.N.	Dis-	Sus-	Total ppm
		ppm	%Sat.		5 Day 20 °C	lbs./day at 25°C								sol- ved ppm	pen- ded ppm	
STATION NO. 57 - P. 63.9																
7-21 0910	24	6.8	80	92	2.4	1,490	10	6.8	2		50	330	240,000	56	192	248
7-27 0630	23	7.0	81	73	0.7	345	11	6.8	0	7	16	4	3,600	24	13	37
8-5 0920	22	7.5	85	55	0.7	260	8	6.5	1	11	16	5		40	12	52
8-6 1050	25	6.4	76	76	1.1	564	13	7.2	1	10	16	8		40	13	53
8-16 0900	24	7.4	87	51	0.6	207	11	7.0	1	8	14	4		35	11	46
8-26 1045	24	7.7	90	60	0.9	365	11	7.0	1	7	12	4	4,300	11	32	43
9-14 0010	26	7.7	94	54	0.6	219	11	6.7	0	7	20	6	2,300	24	19	43
9-14 0400	26	7.7	94	54	1.1	401	12	6.7	1	8	27	6	9,300	34	22	56
9-14 0840	18	8.2	86	53	0.8	286	11	6.8	0	7	28	4	4,300	34	14	48
9-14 1220	20	8.7	95	54	0.6	219	10	6.9	1	7	26	4	2,300	40	8	48
9-14 1605	22	8.8	100	54	0.4	146	10	6.9	0	6	28	5	2,300	31	11	42
9-14 2000	21	8.1	90	51	2.5	861	11	6.9	3	7	36	8	910	34	20	54
9-15 0020	20	7.6	83	51	1.0	344	11	6.9	1	7	40	20	4,300	30	22	52
Avg.	23	7.7	88	60	1.0	439	11		1	8	25	30	27,000	33	30	63
Max.	26	8.8	100	92	2.5	1,490	13	7.2	3	11	50	330	240,000	56	192	248
Min.	18	6.8	76	51	0.4	207	8	6.5	0	6	12	4	910	11	8	37
STATION NO. 58 - P. 62.9																
7-21 0900	35	0.0	0	104	200	140,000	90	6.8	240		880	340	430,000	1,175	334	1,509
7-27 0700	36	0.0	0	80	227	123,000	37	5.4	290	220	880	240	75,000	1,228	256	1,484
8-5 0900	35	0.0	0	62	203	85,000	51	5.7	360	340	920	380		1,464	528	1,992
8-6 1110	38	0.0	0	85	247	142,000	79	7.0	280	300	730	280		1,253	424	1,677
8-16 0920	42	0.0	0	57	200	76,900	116	6.8	430	300	1,300	380		1,736	464	2,200
8-26 1030	40	0.0	0	68	202	92,700	93	6.6		340	1,400	290	150,000	1,583	386	1,951
Avg.	38	0.0	0	76	213	110,000	78		320	200	1,020	320	120,000	1,407	396	1,803
Max.	40	0.0	0	104	247	142,000	116	7.0	430	340	1,400	380	430,000	1,736	528	2,200
Min.	35	0.0	0	57	200	76,900	93	6.6		340	1,300	240	75,000	1,175	256	1,484

TABLE 9
ANALYTICAL RESULTS

Collected Date Time 1954	Temp. °C	D.O. ppm %Sat.	Dis. cfs	B. O. D.		pH	Cl	Hard- ness	Color True	Tur- bidity	Coliform N.P.N.	Dis- sol- ved ppm	Sus- pen- ded ppm	Total ppm
				5 Day 20 °C	lbs./day at 25° C									
STATION NO. 59 - P. 59.0														
7-21	0835	31	114	177	136,000	104	7.2	170	760	250	430,000	960	224	1,184
7-27	0725	30	88	180	107,000	80	6.9	250	1,000	200	930,000	1,161	166	1,327
8-5	0840	30	67	333	151,000	196	7.6	380	1,240	500		1,804	320	2,124
8-6	1025	32	94	281	178,000	168	7.1	430	1,300	300		1,831	214	2,045
8-16	0835	32	63	168	71,000	139	7.1	380	1,200	220		1,506	150	1,656
8-26	1015	33	75	272	138,000	231	8.7	525	1,000	500	430,000	1,996	108	2,104
9-14	0035	28	59	255	102,000	395	10.8	265	1,480	500				
9-14	0420	19	59	414	165,000	797	7.4	460	2,000	2,900	110,000	2,445	368	2,813
9-14	0810	25	58	340	133,000	238	7.7	570	1,840	450	4,300,000	2,026	4084	6,110
9-14	1200	28	59	266	106,000	178	7.2	460	1,920	320	930,000	2,208	312	2,520
9-14	1630	32	59	216	86,000	172	7.4	510	1,200	260	930,000	1,960	208	2,168
9-14	2030	30	56	288	109,000	246	7.4	650	2,080	550	4,300,000	1,968	156	2,124
9-14	2355	28	56	251	94,900	232	7.7	510	840	500	1,500,000	2,267	424	2,691
Avg.		29	70	265	121,000	244		460	1,380	550	1,700,000	1,843	561	2,404
Max.		33	114	414	178,000	797	10.8	720	2,080	2,900	4,300,000	2,445	4084	6,110
Min.		19	56	168	71,000	80	6.9	170	760	200	430,000	960	108	1,184
STATION NO. 60 - P. 55.4														
7-21	0650	30	121	231	189,000	214	7.3	190	760	390	2,400,000	1,134	478	1,612
7-27	0740	27	94	173	110,000	139	7.3	440	740	160	2,400,000	1,411	126	1,537
8-5	0755	27	71	205	98,200	207	7.4	420	1,300	210		1,692	134	1,826
8-6	1010	28	100	218	147,000	152	7.3	270	1,040	290		1,373	224	1,597
8-16	0825	28	67	178	80,500	216	7.5	330	1,000	300		1,397	148	1,545
8-26	1000	30	81	234	128,000	252	9.8	280	1,000	380	930,000	1,291	268	1,559
Ave.		28	89	207	125,000	197		320	960	290	1,900,000	1,383	230	1,613
Max.		30	121	234	189,000	252	9.8	440	1,300	390	2,400,000	1,692	478	1,826
Min.		27	67	173	80,500	139	7.3	190	740	160	930,000	1,134	126	1,537

*Excluded from average.

TABLE 9

ANALYTICAL RESULTS

Collected		Temp. °C	D.O.		Dis. cfs	B. O. D.		Alkalinity		pH	Cl ⁻	Hard- ness	Color	Tur- bidity	Coliform M.P.N.	Solids		
Date	Time		ppm	%Sat.		5 Day 20 °C	Lbs./day at 25 °C	Phenol.	M.O.							Dis- sol- ved ppm	Sus- pen- ded ppm	
STATION NO. 61 - Ri 4.7																		
7-21	0620	22	7.4	84	34	1.1	252	16	7.2	1			20	2	>11,000*	43	14	57
7-27	0805	20	8.0	87	32	0.9	194	16	7.1	0		14	15	2	24,000	40	9	49
8-5	0610	20	7.3	80	26	0.8	140	19	7.4	2		19	10	2		57	8	65
8-6	0940	21	7.3	81	48	1.8	583	15	7.3	1		13	20	90				
8-16	0800	20	7.7	84	22	1.0	149	13	6.8	1		14	10	2	24,000	63	10	73
8-26	0940	21	7.1	79	26	4.1	720	15	6.9			13	15	4	24,000	50	8	58
Avg.		21	7.5	83	31	1.6	340	16		1		15	15	15	24,000	51	10	61
Max.		22	8.0	87	48	4.1	720	19	7.4	2		19	20	90	24,000	63	14	73
Min.		20	7.1	79	22	0.8	140	13	6.8	0		13	10	2	24,000	40	8	49
STATION NO. 62 - Ri 0.2																		
7-21	0635	25	7.4	88	37	2.1	524	17	7.3	2			20	3	430	51	19	70
7-27	0745	23	6.8	78	35	1.9	449	19	7.2	1		18	25	6	24,000	44	21	65
8-5	0745	22	7.0	79	27	1.4	255	19	7.1	2		23	25	6		58	18	76
8-6	0955	24	6.7	79	26	2.6	456	19	7.2	1		19	18	30				
8-16	0815	23	7.4	85	25	1.4	236	20	7.0	2		20	28	10		56	20	76
8-26	0850	24	7.4	87	30	1.3	203	21	7.2			19	25	10	2,300	53	17	70
Avg.		24	7.1	83	30	1.8	354	19		2		20	24	10	8,900	52	17	69
Max.		25	7.4	88	37	2.6	524	21	7.3	2		23	28	30	24,000	58	21	76
Min.		22	6.8	78	25	1.3	203	17	7.0	1		18	18	3	430	44	17	65

*Excluded from average.

TABLE 9
ANALYTICAL RESULTS

Collected Date Time -954	Temp. °C	B.O.D.		Dis. cfs	D.O.		Alkalinity Phenol. N.O.	pH	Cl ⁻	Hard- ness	Color True	Tur- bid- ity	Coliform M.P.N.	Solids		
		5 Day 20 °C at 25 °C	lbs./day		ppm	%Sat.								Dis- sol- ved ppm	Sus- pen- ded ppm	Total ppm
STATION NO. 63 - P. 52.2																
7-21 0710	27	211	263,000	185	0.0	0	151	7.4	3	207	760	230	240,000	941	236	1,177
7-27 0825	26	133	121,000	135	0.0	0	111	7.3	4	270	440	130	2,400,000	809	88	897
8-5 0730	25	165	119,000	107	0.0	0	159	7.1	5	250	1,060	110		1,203	70	1,273
8-6 0920	26	158	157,000	147	0.0	0	132	7.2	4	199	800	230		1,010	166	1,176
8-16 0745	26	154	104,000	100	0.0	0	174	7.4	5	152	1,000	190		1,096	100	1,196
9-26 0920	27	102	86,100	125	0.0	0	121	7.4	3	216	700	170	9,300,000	774	128	902
Avg.	26	154	142,000	133	0.0	0	141		4	270	800	180	4,000,000	972	131	1,103
Max.	27	211	263,000	185	0.0	0	174	7.4	5	152	1,060	230	9,300,000	1,203	236	1,273
Min.	25	102	86,100	100	0.0	0	111	7.1	3	152	440	130	240,000	774	88	902
STATION NO. 64 - P. 45.0																
7-21 0745	28	79	150,000	282	2.0	25	103	7.1	160	144	620	160	1,100,000	696	104	800
7-27 0905	24	61	85,400	209	3.1	36	90	7.4	140	170	400	100	930,000	587	64	651
8-5 0700	23	85	88,400	154	1.0	12	125	7.4	160	170	520	110		768	78	846
8-6 0810	24	78	14,000	265	1.9	22	115	7.3	150	150	500	120		685	84	769
8-16 0710	24	143	151,000	156	0.0	0	130	7.3	220	155	700	140		868	80	948
8-26 0840	25	79	108,000	202	1.5	18	131	7.5	150	158	600	150	930,000	702	88	790
Avg.	25	88	99,500	211	1.6	19	116		160	155	440	130	990,000	718	83	801
Max.	28	143	151,000	282	3.1	36	131	7.5	220	170	700	160	1,100,000	768	104	948
Min.	23	61	85,400	154	0.0	0	90	7.1	140	144	400	100	930,000	587	64	651

EXPLANATION OF TABLE 10, RECOMMENDED CLASSIFICATIONS

The tentatively recommended classifications of the surface waters in the Pigeon River Drainage Area, French Broad River Basin are given in Table 10, pages 168 - 183 inclusive. These recommendations are considered to represent the best usages of the streams in the interest of the public, and are submitted to all concerned for consideration at the Public Hearing, and the State Stream Sanitation Committee in its determination of the final classifications to be assigned.

Any stream not named in Table 10 carries the same classification as the segment of the stream to which it is tributary.

Key to Abbreviations Used in Table

Agri.	Agriculture
FWP	Fish & Wildlife Propagation
N	Natural
NF	National Forest
NP	National Park
P	Polluted
Rec.	Recreation
Res.	Residential
W	Woodland
WF	Woodland & Farm Land
WS	Water Supply

Brief Explanation of Water Classifications

- A-I Water supply from uninhabited watersheds requiring only approved disinfection.
- A-II Water supply with approved complete treatment.
- B Bathing and recreation.
- C Fishing.
- D Agricultural, including irrigation and livestock watering and industrial cooling and process water supply.
- E Navigation and the disposal of sewage, industrial wastes or other wastes.

TABLE 10
RECOMMENDED CLASSIFICATIONS
PIGEON RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
I. Pigeon River from source to Canton water supply intake	Mtn., NFWF	N	WS	WS	A-II	Town of Canton and Champion Paper and Fiber Company
A. West Fork Pigeon River	NFWF	N	Fishing	Fishing	C	Designated Trout Waters
1. Bubbling Spring Branch	NF	N	Fishing	Fishing	C	
2. Flat Laurel Creek	NF	N	FWP	FWP	C	
3. Sam Branch	NF	N	FWP	FWP	C	
4. Green Creek	NF	N	FWP	FWP	C	
5. Tom Creek	NF	N	FWP	FWP	C	
6. Turnpike Creek	NF	N	FWP	FWP	C	
7. Middle Prong	NF	N	FWP	FWP	C	
a. Haywood Gap Stream	NF	N	FWP	FWP	C	
b. Buckeye Creek	NF	N	FWP	FWP	C	
c. Grassy Ridge Branch	NF	N	FWP	FWP	C	
d. Camp Two Branch	NF	N	FWP	FWP	C	
e. Big Beartrap Branch	NF	N	FWP	FWP	C	
f. Little Beartrap Branch	NF	N	FWP	FWP	C	
g. Right Hand Prong	NF	N	FWP	FWP	C	

TABLE 10
RECOMMENDED CLASSIFICATIONS
PIGEON RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Pro- posed Class	Remarks
(1) Boomer Inn Br.	NF	N	FWP	FWP	C	
8. Queen Creek	NF	N	FWP	FWP	C	
9. Laurel Branch	NF	N	FWP	FWP	C	
10. Curtis Cove Branch	NF	N	FWP	FWP	C	
11. Big Creek	NF	N	FWP	FWP	C	Designated trout waters, Camp Daniel Boone.
12. Little East Fork Pigeon River	NF	N	FWP	FWP	C	
a. Shining Rock Creek	NF	N	FWP	FWP	C	
b. Hemlock Branch	NF	N	FWP	FWP	C	
c. Scapegoat Branch	NF	N	FWP	FWP	C	
d. Cathey Cove Branch	NF	N	FWP	FWP	C	
e. Big Branch	NF	N	FWP	FWP	C	
f. Chestnut Flat Creek	NF	N	FWP	FWP	C	
g. Sorrell Creek	NF	N	FWP	FWP	C	
h. Deep Gap Creek	NF	N	FWP	FWP	C	
i. Schoolhouse Branch	NF	N	FWP	FWP	C	
j. Panther Branch	NF	N	FWP	FWP	C	
13. McClure Creek	WF	N	FWP	FWP	C	
14. Nick Creek	WF	N	FWP	FWP	C	

TABLE 10
RECOMMENDED CLASSIFICATIONS
PIGEON RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
a. Sam Branch	WF	N	FWP	FWP	C	
15. Poplar Branch	WF	N	FWP	FWP	C	
16. Inman Branch	WF	N	FWP	FWP	C	
17. Rocky Branch	WF	N	FWP	FWP	C	
18. Bird Creek	WF	N	FWP	FWP	C	
a. Edward Cove Branch	WF	N	FWP	FWP	C	
b. Peter Cove Branch	WF	N	FWP	FWP	C	
B. East Fork Pigeon River	WF	N	FWP	FWP	C	Designated trout waters, Camp Hope
1. Yellowstone Prong	NF	N	FWP	FWP	C	
2. Dark Prong	NF	N	FWP	FWP	C	
3. Greasy Cove Prong	NF	N	FWP	FWP	C	
4. Bennett Branch	NF	N	FWP	FWP	C	
5. Shining Creek	NF	N	FWP	FWP	C	
a. South Prong	NF	N	FWP	FWP	C	
b. North Prong	NF	N	FWP	FWP	C	
(1) Dina Branch	NF	N	FWP	FWP	C	
6. Dry Branch	NF	N	FWP	FWP	C	
7. Bee Branch	NF	N	FWP	FWP	C	
8. Ugly Creek	NF	N	FWP	FWP	C	

TABLE 10

RECOMMENDED CLASSIFICATIONS
PIGEON RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
9. Crawford Creek	WF	N	FWP	FWP	C	
10. Hungry Creek	WF	N	FWP	FWP	C	
11. Pisgah Creek	WF	N	FWP	FWP	C	
a. Reed Creek	WF	N	FWP	FWP	C	
b. Chinquapin Branch	WF	N	FWP	FWP	C	
12. Long Branch	WF	N	Agri.	Agri.	D	
13. Harley Branch	WF	N	Agri.	Agri.	D	
14. Burnett Creek	WF	N	Agri.	Agri.	D	
a. Henderson Creek	WF	N	Agri.	Agri.	D	
15. Lenoir Creek	WF	N	Agri.	Agri.	D	
16. Dix Creek	WF	N	Agri.	Agri.	D	
a. Smoky Cove Branch	WF	N	Agri.	Agri.	D	
C. Poison Cove Branch	WF	N	Agri.	Agri.	D	
D. Stamey Cove Branch	WF	N	Agri.	Agri.	D	
E. Garden Creek	WF	N	Agri.	Agri.	D	
1. Henson Cove Branch	WF	N	Agri.	Agri.	D	
2. Coffee Branch	WF	N	Agri.	Agri.	D	
II. Pigeon River from Canton water supply intake to Highway #25 Bridge	Res.	N	Bathing	Bathing	B	

TABLE 10
RECOMMENDED CLASSIFICATIONS
PIGEON RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage		Best Usage	Proposed Class	Remarks
			Waste Disposal	Agri.			
III. Pigeon River from Highway #25 Bridge to mouth of Crabtree Creek.	WF	P	Waste Disposal		Waste Disposal	E	
A. Beaverdam Creek	WF	N	Agri.		Agri.	D	
1. Long Branch	WF	N	Bathing		Bathing	B	Camp High Valley.
2. West Cove Branch	WF	N	Agri.		Agri.	D	
3. Wilson Cove Branch	WF	N	Agri.		Agri.	D	
4. Rough Creek	WF	N	WS		WS	A-I	
5. Rice Cove Creek	WF	N	Agri.		Agri.	D	
B. Murray Branch	WF	N	Agri.		Agri.	D	
C. Thickety Creek	WF	N	Agri.		Agri.	D	
D. Sally Haines Branch	WF	N	Agri.		Agri.	D	
E. Medford Cove Branch	WF	N	Agri.		Agri.	D	
F. Connor Mill Branch	WF	N	WS		WS	A-II	
G. Chambers Branch	WF	N	Agri.		Agri.	D	
H. Richland Creek from source to Lake Junaluska Dam.	WF	N	Agri.		Bathing	B	
1. Redbank Branch	WF	N	Agri.		Agri.	D	
2. Winchester Creek	WF	N	Agri.		Agri.	D	
a. Little Branch	WF	N	Agri.		Agri.	D	
3. Nolen Creek	WF	N	Agri.		Agri.	D	

TABLE 10

RECOMMENDED CLASSIFICATIONS
PIGEON RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
4. Drift Branch	WF	N	Agri.	Agri.	D	
5. Hyatt Creek	WF	N	Bathing	Bathing	B	Camp Alverno.
6. Allen Creek from source to Waynesville water supply.	NF	N	WS	WS	A-I	
a. Cherry Cove Creek	NF	N	WS	WS	A-I	
(1) Long Branch	NF	N	WS	WS	A-I	
b. Shiny Creek	NF	N	WS	WS	A-I	
(1) Goldspring Branch	NF	N	WS	WS	A-I	
7. Allen Creek from Waynes- ville water intake to mouth.	WF	N	Fishing	Fishing	C	Designated trout waters.
a. Deep Gap Creek	NF	N	Fishing	WS	A-I	
b. Old Bald Creek	NF	N	Fishing	Fishing	C	
c. Stecstachee Branch	NF	N	Fishing	Fishing	C	
d. Bearpen Branch	NF	N	Fishing	Fishing	C	
e. Rocky Branch	NF	N	WS	WS	A-I	
f. Cove Field Branch	WF	N	Fishing	Fishing	C	
8. Browning Branch	WF	N	Agri.	Agri.	D	
a. Medford Branch	WF	N	Agri.	Agri.	D	
b. Camp Branch	WF	N	Agri.	Agri.	D	
9. Plott Creek	WF	N	Agri.	Agri.	D	

TABLE 10
RECOMMENDED CLASSIFICATIONS
PIGEON RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief		Best Usage	Proposed Class	Remarks
			Present	Usage			
10. Eaglenest Creek	WF	N	Agri.	Agri.	Agri.	D	
11. Farmer Branch	WF	N	Agri.	Agri.	Bathing	B	
12. Shingle Cove Branch	WF	N	Bathing	Bathing	Bathing	B	Camp Laughing Owl.
13. Shelton Branch	WF	N	Agri.	Agri.	Bathing	B	
14. Raccoon Creek	WF	N	Agri.	Agri.	Bathing	B	
15. Factor Branch	WF	N	Agri.	Agri.	Bathing	B	
a. Mauney Cove Branch	WF	N	Agri.	Agri.	Bathing	B	
b. McElroy Branch	WF	N	Agri.	Agri.	Bathing	B	
16. Lake Junaluska	Rec.	N	Fishing	Bathing	Bathing	B	
I. Richland Creek from Lake Junaluska Dam to mouth.	WF	N	Agri.	Agri.	Agri.	D	
1. Rogers Cove Branch	WF	N	Agri.	Agri.	Agri.	D	
2. Jones Cove Branch	WF	N	Agri.	Agri.	Agri.	D	
J. Long Branch	WF	N	Agri.	Agri.	Agri.	D	
K. Big Branch	WF	N	Agri.	Agri.	Agri.	D	
L. Big Branch	WF	N	Agri.	Agri.	Agri.	D	
IV. Pigeon River from mouth of Crabtree Creek to State Line.	WF	P	Power	Dev.	Agri.	D	Quality required to satisfy needs of Tennessee.
A. Crabtree Creek	WF	N	Agri.	Agri.	Agri.	D	
1. Liner Creek	WF	N	Agri.	Agri.	Agri.	D	
2. Fall Creek	WF	N	Agri.	Agri.	Agri.	D	
a. Jordan Branch	WF	N	Agri.	Agri.	Agri.	D	

TABLE 10

RECOMMENDED CLASSIFICATIONS
PIGEON RIVER DRAINAGE AREA

Stream	Character of District	Condition		Best Usage	Proposed Class	Remarks
		of Water	Chief Usage			
3. Rock Hollow Branch	WF	N	Agri.	Agri.	D	
4. Rogers Cove Creek	WF	N	Agri.	Agri.	D	
5. Bald Creek	WF	N	Agri.	Agri.	D	
a. Buckeye Branch	WF	N	Agri.	Agri.	D	
b. Indian Branch	WF	N	Agri.	Agri.	D	
c. Little Creek	WF	N	Agri.	Agri.	D	
d. Long Levels Branch	WF	N	Agri.	Agri.	D	
e. Harbon Cove Branch	WF	N	Agri.	Agri.	D	
6. Rush Fork	WF	N	Agri.	Agri.	D	
a. Silvers Cove Creek	WF	N	Agri.	Agri.	D	
B. Dotson Branch	WF	N	Agri.	Agri.	D	
C. Marrow Branch	WF	N	Agri.	Agri.	D	
D. Rabbitskin Branch	WF	N	Agri.	Agri.	D	
E. Jonathans Creek	WF	N	Fishing	Fishing	C	Designated trout waters.
1. Wolf Laurel Branch	WF	N	Fishing	Fishing	C	
2. Wycle Creek	WF	N	Fishing	Fishing	C	
a. Mashers Stamp Branch	WF	N	Fishing	Fishing	C	
b. Deep Gap Branch	WF	N	Fishing	Fishing	C	
c. Long Branch	WF	N	Fishing	Fishing	C	
3. Indian Creek	WF	N	Fishing	Fishing	C	

TABLE 10
RECOMMENDED CLASSIFICATIONS
PIGEON RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief		Best Usage	Proposed Class	Remarks
			Present	Usage			
4. Carpenter Branch	WF	N	Fishing	Fishing	Fishing	C	
5. Fie Creek	WF	N	Fishing	Fishing	Fishing	C	
6. Campbell Creek	WF	N	Fishing	Fishing	Fishing	C	
a. East Fork	WF	N	Fishing	Fishing	Fishing	C	
b. West Fork	WF	N	Fishing	Fishing	Fishing	C	
c. Johnson Branch	WF	N	Fishing	Fishing	Fishing	C	
7. Evans Branch	WF	N	Fishing	Fishing	Fishing	C	
8. Pinetree Cove Creek	WF	N	Fishing	Fishing	Fishing	C	
9. Mitchell Cove Branch	WF	N	Fishing	Fishing	Fishing	C	
10. Mine Branch	WF	N	Fishing	Fishing	Fishing	C	
11. Big Spring Branch	WF	N	Fishing	Fishing	Fishing	C	
12. Gaddies Branch	WF	N	Fishing	Fishing	Fishing	C	
13. Jaynes Cove Branch	WF	N	Agri.	Fishing	Fishing	C	
14. Hemphill Creek	WF	N	Fishing	Fishing	Fishing	C	
a. Ned Branch	WF	N	Fishing	Fishing	Fishing	C	
b. Germany Cove Branch	WF	N	Agri.	Fishing	Fishing	C	
15. Beantown Creek	WF	N	Agri.	Fishing	Fishing	C	
a. Sugar Cove Branch	WF	N	Agri.	Fishing	Fishing	C	
16. Parks Branch	WF	N	Agri.	Fishing	Fishing	C	
17. Nelson Branch	WF	N	Agri.	Fishing	Fishing	C	

TABLE 10

RECOMMENDED CLASSIFICATIONS
PIGEON RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
18. Cove Creek	WF	N	Fishing	Fishing	C	
a. Messer Branch	WF	N	Agri.	Fishing	C	
b. Right Fork Cove Creek	WF	N	Fishing	Fishing	C	
c. Moody Branch	WF	N	Agri.	Fishing	C	
19. Morrow Branch	WF	N	Agri.	Fishing	C	
20. Wright Branch	WF	N	Agri.	Fishing	C	
F. Laurel Branch	WF	N	Agri.	Agri.	D	
G. Panther Branch	WF	N	Agri.	Agri.	D	
H. Rocky Branch	WF	N	Agri.	Agri.	D	
I. Grassy Branch	WF	N	Agri.	Agri.	D	
J. Rogers Branch	WF	N	Agri.	Agri.	D	
K. Fines Creek	WF	P	Agri.	Agri.	D	
1. Sally Branch	WF	N	Agri.	Agri.	D	
2. Orchard Branch	WF	N	Agri.	Agri.	D	
3. Phillips Branch	WF	N	Agri.	Agri.	D	
4. Sugar Cove Branch	WF	N	Agri.	Agri.	D	
5. Turkey Creek	WF	N	Agri.	Agri.	D	
6. Wesley Creek	WF	N	Agri.	Agri.	D	
a. Gibson Branch	WF	N	Agri.	Agri.	D	
7. Morgan Creek	WF	N	Agri.	Agri.	D	
8. Cove Creek	WF	N	Agri.	Agri.	D	

TABLE 10
RECOMMENDED CLASSIFICATIONS
PIGEON RIVER DRAINAGE AREA

Stream	Character of District	Condition		Best Usage	Proposed Class	Remarks
		of Water	Chief Usage			
a. Turkey Cove Branch	WF	N	Agri.	Agri.	D	
(1) Buckeye Cove Branch	WF	N	Agri.	Agri.	D	
b. Poplar Cove Branch	WF	N	Agri.	Agri.	D	
c. James Branch	WF	N	Agri.	Agri.	D	
9. Martin Creek	WF	N	Agri.	Agri.	D	
10. Toms Branch	WF	N	Agri.	Agri.	D	
L. Leatherwood Branch	WF	N	Agri.	Agri.	D	
M. Camp Branch	WF	N	Agri.	Agri.	D	
N. Laurel Branch	WF	N	Agri.	Agri.	D	
O. Teague Branch	WF	N	Agri.	Agri.	D	
L. Messer Branch	WF	N	Agri.	Agri.	D	
P. Laurel Branch	WF	N	Agri.	Agri.	D	
Q. Stevens Creek	WF	N	Agri.	Agri.	D	
L. Hunter Branch	WF	N	Agri.	Agri.	D	
R. Whiteoak Branch	WF	N	Agri.	Agri.	D	
L. Nelson Branch	WF	N	Agri.	Agri.	D	
S. Laurel Branch	W	N		Agri.	D	
T. Wilkins Creek	WF	N	Agri.	Agri.	D	
U. Cataloochee Creek	NWFF	N	Fishing	Fishing	C	
L. Rough Fork	NP	N	Fishing	Fishing	C	

TABLE 10

RECOMMENDED CLASSIFICATIONS
PIGEON RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief		Best Usage	Proposed Class	Remarks
			Present Usage	Fishing			
a. George Ira Creek	NP	N	Fishing	Fishing	Fishing	C	
b. Woody Creek	NP	N	Fishing	Fishing	Fishing	C	
c. Horse Creek	NP	N	Fishing	Fishing	Fishing	C	
(1) Bear Creek	NP	N	Fishing	Fishing	Fishing	C	
d. Messer Fork	NP	N	Fishing	Fishing	Fishing	C	
e. Jim Branch	NP	N	Fishing	Fishing	Fishing	C	
f. Shanty Branch	NP	N	Fishing	Fishing	Fishing	C	
2. Palmer Creek	NP	N	Fishing	Fishing	Fishing	C	
a. Falling Rock Creek	NP	N	Fishing	Fishing	Fishing	C	
b. Beech Creek	NP	N	Fishing	Fishing	Fishing	C	
c. Lost Bottom Creek	NP	N	Fishing	Fishing	Fishing	C	
d. Pretty Hollow Creek	NP	N	Fishing	Fishing	Fishing	C	
(1) Cooks Creek	NP	N	Fishing	Fishing	Fishing	C	
e. Davidson Branch	NP	N	Fishing	Fishing	Fishing	C	
(1) Little Davidson Branch	NP	N	Fishing	Fishing	Fishing	C	
3. Mossy Branch	NP	N	Fishing	Fishing	Fishing	C	
Matthews Branch	NP	N	Fishing	Fishing	Fishing	C	
4. Caldwell Fork	NP	N	Fishing	Fishing	Fishing	C	
Warm Cove Branch	NP	N	Fishing	Fishing	Fishing	C	
b. Little Bald Branch	NP	N	Fishing	Fishing	Fishing	C	

TABLE 10
RECOMMENDED CLASSIFICATIONS
PIGEON RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief		Best Usage	Proposed Class	Remarks
			Present	Usage			
c. Straight Creek	NP	N	Fishing		Fishing	C	
d. Big Bald Branch	NP	N	Fishing		Fishing	C	
e. Double Gap Branch	NP	N	Fishing		Fishing	C	
f. Clontz Branch	NP	N	Fishing		Fishing	C	
g. McKee Branch	NP	N	Fishing		Fishing	C	
h. Snake Branch	NP	N	Fishing		Fishing	C	
i. Sag Branch	NP ^a	N	Fishing		Fishing	C	
j. Den Branch	NP	N	Fishing		Fishing	C	
5. Upper Double Branch	NP	N	Fishing		Fishing	C	
6. Lower Double Branch	NP	N	Fishing		Fishing	C	
7. Winding Stair Branch	NP	N	Fishing		Fishing	C	
8. Nelson Branch	NP	N	Fishing		Fishing	C	
9. Bennett Branch	NP	N	Fishing		Fishing	C	
10. Little Cataloochee Creek	NP	N	Fishing		Fishing	C	
a. Woody Branch	NP	N	Fishing		Fishing	C	
b. Andy Branch	NP	N	Fishing		Fishing	C	
c. Conrad Branch	NP	N	Fishing		Fishing	C	
d. Coggins Branch	NP	N	Fishing		Fishing	C	
e. North Prong	NP	N	Fishing		Fishing	C	
(1) Dude Creek	NP	N	Fishing		Fishing	C	

TABLE 10

RECOMMENDED CLASSIFICATIONS
PIGEON RIVER DRAINAGE AREA

Stream	Character of District	Condition		Present Usage	Best Usage	Proposed Class	Remarks
		of Water	Chief Usage				
V. Slickrock Branch	W	N		Agri.	Agri.	D	
W. Hurricane Creek	WF	N	Agri.	Agri.	Agri.	D	
X. Cold Springs Creek	WF	N	Agri.	Agri.	Agri.	D	
Y. Hicks Branch	W	N	FWP	FWP	FWP	C	
Z. Tom Hall Branch	NF	N	FWP	FWP	FWP	C	
AA. Rube Rock Branch	NF	N	FWP	FWP	FWP	C	
BB. Groundhog Creek	NF	N	FWP	FWP	FWP	C	
1. Holly Bottom Branch	NF	N	FWP	FWP	FWP	C	
2. Ephraim Branch	NF	N	FWP	FWP	FWP	C	
3. Chestnut Orchard Branch	NF	N	FWP	FWP	FWP	C	
4. Dry Branch	NF	N	FWP	FWP	FWP	C	
CC. Skiffley Creek	NF	N	FWP	FWP	FWP	C	
DD. Counterfeit Branch	NF	N	FWP	FWP	FWP	C	
EE. Runyon Creek	NF	N	FWP	FWP	FWP	C	
FF. Mt. Sterling Creek	NF	N	Fishing	Fishing	Fishing	C	Designated trout waters.
1. Dogwood Flats Creek	NF	N	Fishing	Fishing	Fishing	C	
2. Stinking Camp Branch	NF	N	Fishing	Fishing	Fishing	C	
GG. Flat Branch	NF	N	FWP	FWP	FWP	C	
HH. Snow Bird Creek	NF	N	FWP	FWP	FWP	C	

TABLE 10
RECOMMENDED CLASSIFICATIONS
PIGEON RIVER DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
II. Painter Branch	NP	N	FWP	FWP	C	
JJ. Big Creek	NP	N	Fishing	Fishing	C	Designated trout waters.
1. Slide Branch	NP	N	FWP	FWP	C	
2. Deer Creek	NP	N	FWP	FWP	C	
3. Yellow Creek	NP	N	FWP	FWP	C	
4. Stinking Creek	NP	N	FWP	FWP	C	
5. Nettle Branch	NP	N	FWP	FWP	C	
6. Little Nettle Branch	NP	N	FWP	FWP	C	
7. Rocky Branch	NP	N	FWP	FWP	C	
8. Gunter Fork	NP	N	FWP	FWP	C	
9. Swallow Fork	NP	N	FWP	FWP	C	
a. McGinity Creek	NP	N	FWP	FWP	C	
10. Low Gap Branch	NP	N	FWP	FWP	C	
11. Barnes Branch	NP	N	FWP	FWP	C	
12. Prophet Branch	NP	N	FWP	FWP	C	
13. Gray Camp Branch	NP	N	FWP	FWP	C	
14. Mouse Creek	NP	N	FWP	FWP	C	
15. Bettis Branch	NP	N	FWP	FWP	C	
16. Kilby Branch	NP	N	FWP	FWP	C	
17. Baxter Creek	NP	N	FWP	FWP	C	

TABLE 10

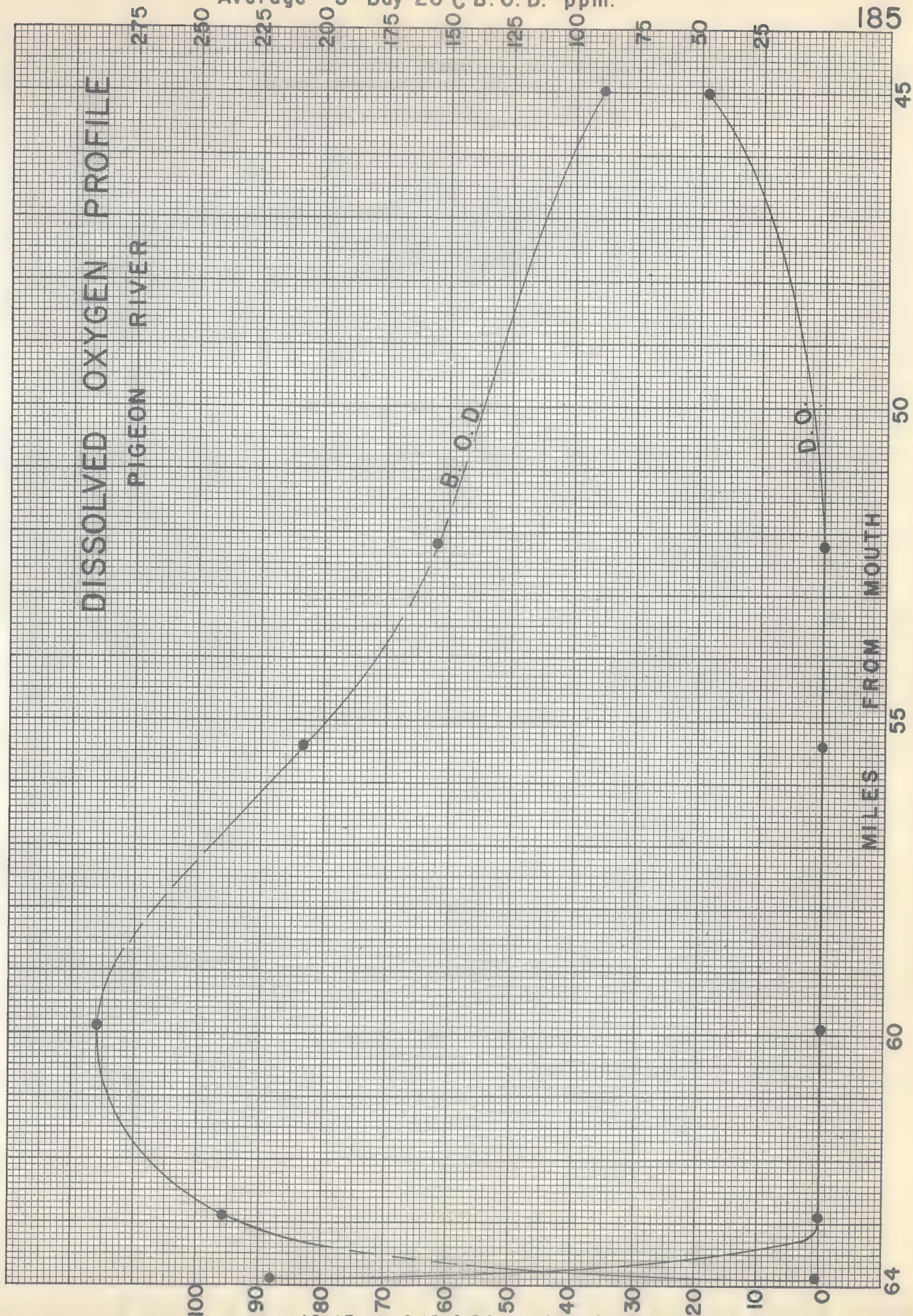
RECOMMENDED CLASSIFICATIONS
PIGEON RIVER DRAINAGE AREA

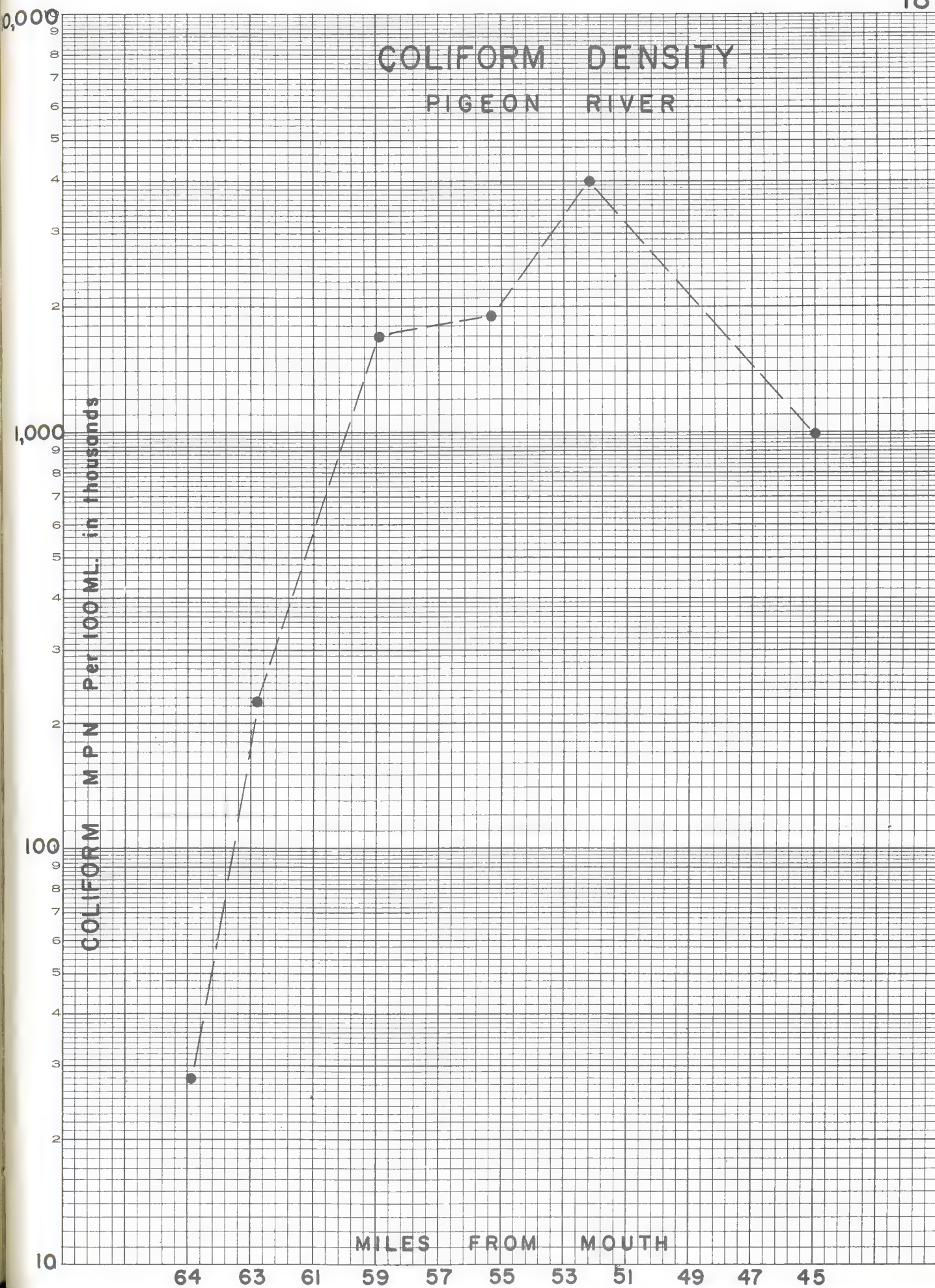
Stream	Character of District	Correlation of Water	Present Usage	Best Usage	Proposed Class	Remarks
18. Big Branch	NP	N	FWP	FWP	C	
19. Leatherwood Branch	NP	N	FWP	FWP	C	
20. Chestnut Branch	NP	N	FWP	FWP	C	
21. Laurel Creek	WF	N	Agri.	Fishing	C	
22. Whaley Branch	WF	N	Agri.	Fishing	C	

DISSOLVED OXYGEN PROFILE

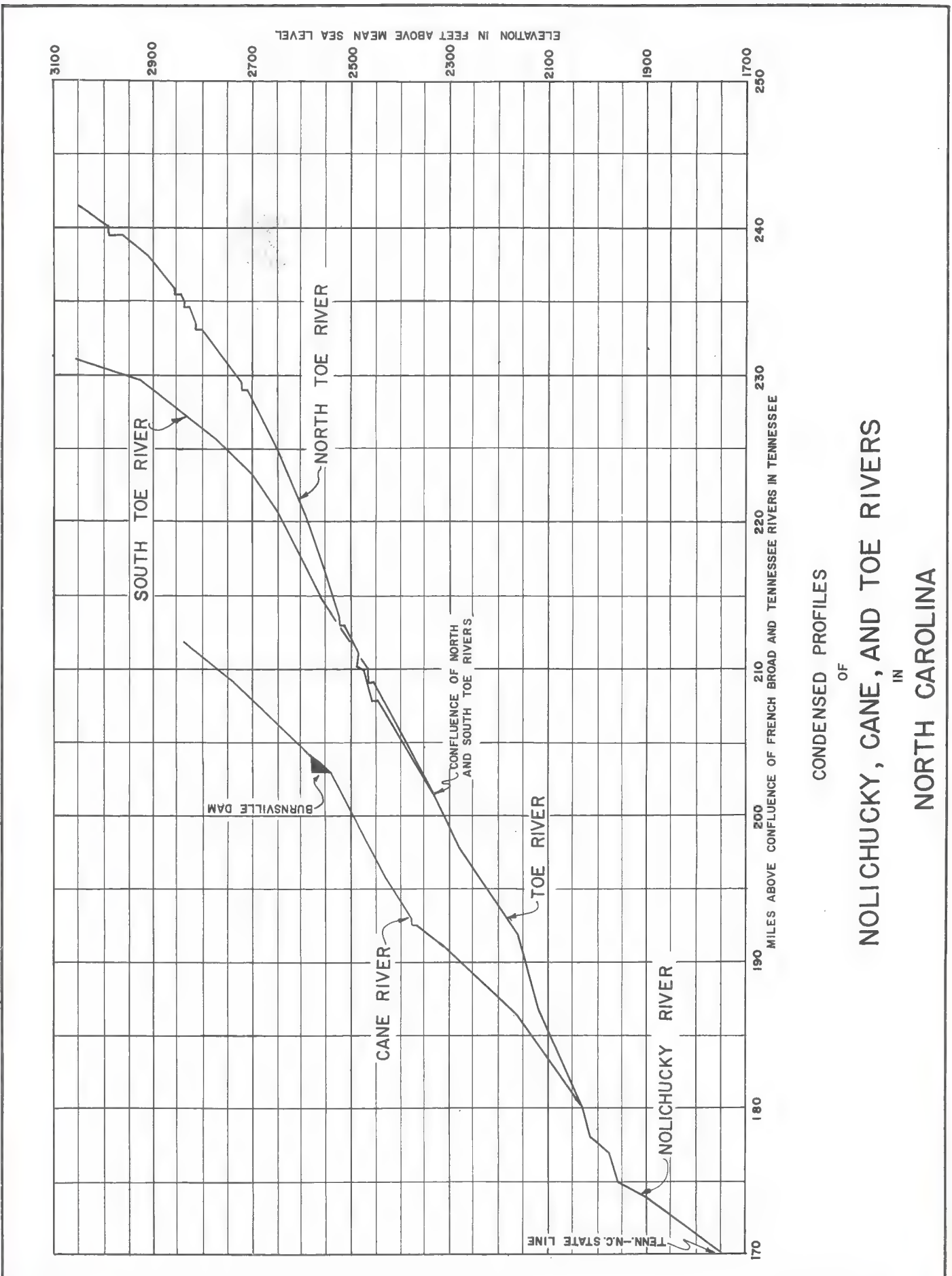
PIGEON RIVER

Average 5 Day 20°C B. O. D. ppm.









CONDENSED PROFILES
OF
NOLICHUCKY, CANE, AND TOE RIVERS
IN
NORTH CAROLINA

SECTION III

NOLICHUCKY RIVER DRAINAGE AREA

Land Characteristics and Uses

The Nolichucky River has its origin as the North Toe, South Toe, and Cane Rivers in Avery and Yancey Counties. The region of the headwaters is very rough, with steep mountain slopes and narrow valleys. The rolling foothills, along Horton and Bald Creeks and in the valleys of the Nolichucky and Cane Rivers between the Bald and Black Mountains, contrast strikingly with the rough mountainous lands near the headwaters. Elevations above sea level vary widely. The highest point in the area and also the highest point east of the Mississippi River is Mount Mitchell 6,684 feet. The lowest is 1,769 feet, where the Nolichucky River flows into Tennessee.

Agricultural activities are determined by characteristics of the terrain. Field crops are generally confined to bottom lands and the less steep hill sides. No one crop dominates the agriculture; however, tobacco is the chief cash crop. Harvesting forest products and mining supplement agriculture, which alone could not support the present population.

Approximately sixty-seven per cent of the drainage area is covered by woodland, of which twenty-one per cent is in National Forest or other Public Forest Reserves.

Existing Stream Uses

Surface water is the major source of municipal, industrial, and agricultural water supply throughout the area. Streams supply the water that is distributed by the municipal water systems of Spruce Pine and Burnsville. These water supplies are of such quality as to be suitable for drinking after chlorination only.

Surface water is the main source of water for farm animals with many streams in the area being used as a source of water for irrigating of both field crops and pasture lands.

The mining industry is perhaps the greatest single user of surface waters in the area. Tremendous quantities of water are required to separate the earth from the minerals mined. These washings, even though generally inert, have a deleterious effect on the receiving stream. The greatest effect of the washing operations is the result of an increase in turbidity eliminating sunlight and upsetting the streams biota. The effects of these wastes extend for a great distance downstream and have resulted in complaints from interested persons and agencies in the State of Tennessee.

The scenic beauty of the area attracts many tourists to the area. The Blue Ridge Parkway, one of the most scenic highways in the State, has made the area more accessible. The lofty peaks of Mt. Mitchell and the Mt. Mitchell State Park are probably the greatest single attraction in the area.

Fishing is prevalent in the unpolluted streams of the area. In order to improve fishing in the area, the N. C. Wildlife Resources Commission annually stocks many streams with trout. Bass and bream are common to the waters of the area.

The French Broad Electric Co. operates the only electric power project in the area. This plant, located on Cane River, generates 475 K.W. of electric power.

The Nolichucky River and its tributaries are used for waste disposal. Wastes, other than mine tailings, are discharged into the drainage system at Newland, Spruce Pine, Burnsville, and Bakersville. The sources of pollution are as follows:

Town of Newland has an estimated sewered population of 125 persons. The town provides primary treatment for its waste. However, this plant was not being properly operated and maintained when inspected by personnel of the State Stream Sanitation Committee. It is doubtful that the treatment plant, as operated, reduces the waste load to the North Toe River.

Town of Spruce Pine discharges untreated sewage from an estimated population of 2,500 persons into the North Toe River. This waste, together with other materials already present in the stream, results in a reduction of the dissolved oxygen in the stream.

Town of Burnsville - The Town of Burnsville discharges untreated sewage from an estimated connected population of 1,500 persons into Little Crabtree Creek and Pine Swamp Branch. Little Crabtree Creek receives the sewage from approximately 1,000 persons, while Pine Swamp Branch receives the sewage from about 500 persons. Both of these streams are quite small; therefore, the wastes result in offensive conditions. These wastes should receive adequate treatment before being discharged.

Town of Bakersville - The Town of Bakersville has no public sewerage system; however, sewage from some homes as well as sewage from Bowman High School is discharged into Cane Creek. This stream has been stocked with trout and designated as trout waters by the N. C. Wildlife Resources Commission. Treatment of these wastes should be provided.

Robinson Dairy, Route #2, Burnsville discharges untreated waste into South Toe River. This waste has a strength that is estimated to be equal in strength to domestic sewage from a population of 250 persons.

Bald Creek High School, Yancey County, discharges waste from an enrollment of 700 into Bald Creek.

Bee Log High School, Yancey County, discharges waste from an enrollment of 600 students into Bald Creek. This waste receives primary treatment before being discharged.

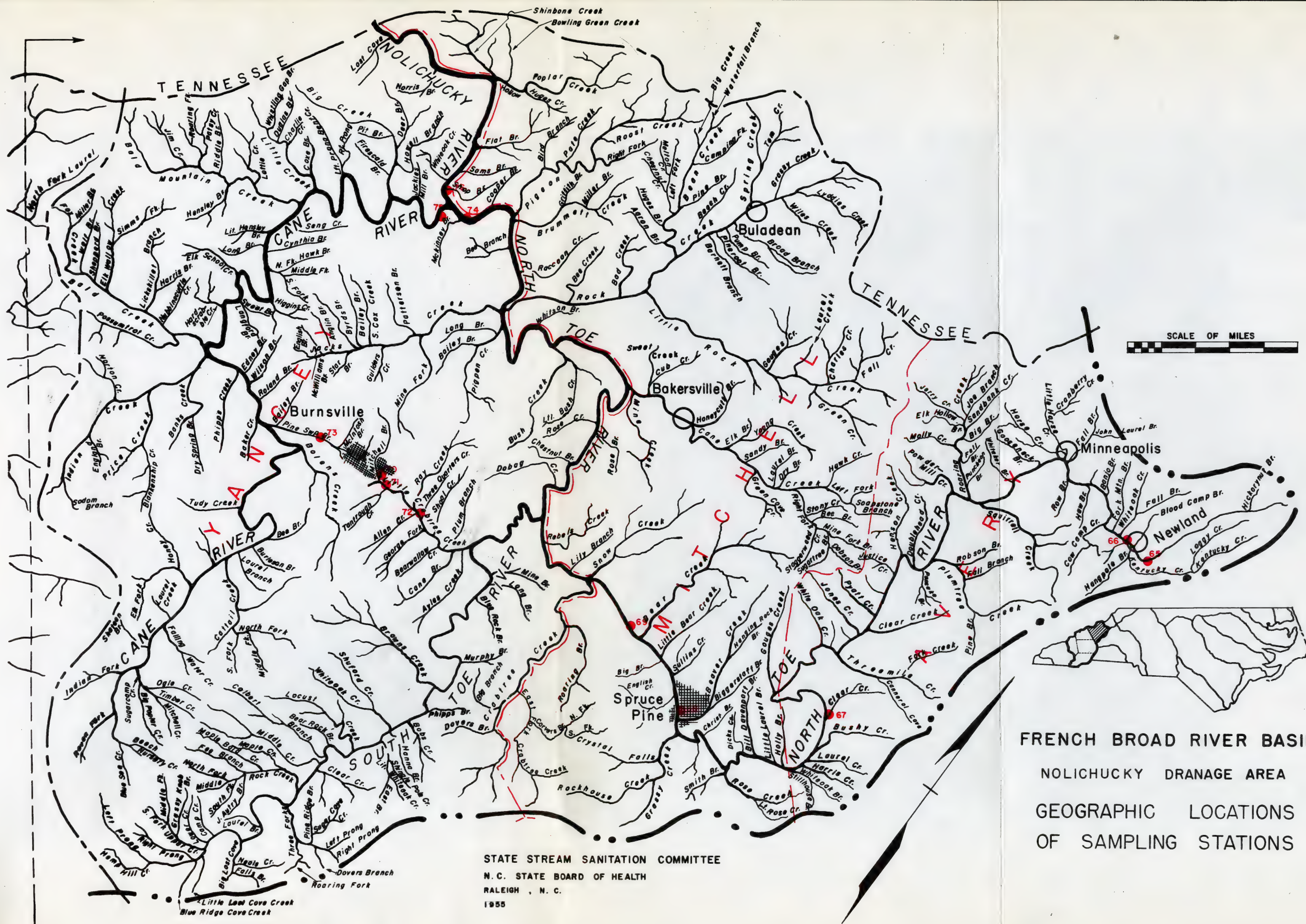
Clearmont High School, Yancey County, discharges untreated waste from an enrollment of 600 into Jacks Creek.

Micaville High School, Yancey County, discharges waste from an enrollment of 800 students into Ayles Creek. This waste receives primary treatment before being discharged.

Potential Future Development

The topography, climate, and scenic nature of the drainage area of the Nolichucky River and its tributaries offer great possibilities for the development of recreational activities and power development. The high mountain slopes, with their longer winter, could be developed to be a great Mecca for the winter sports enthusiasts.

On the Nolichucky River it is estimated by the North Carolina Department of Conservation and Development that 48,900 hydroelectric horsepower could be developed from the three sites investigated; and on the Cane River, 1,850 horsepower.



STATE STREAM SANITATION COMMITTEE
N. C. STATE BOARD OF HEALTH
RALEIGH, N. C.
1955

TABLE 11

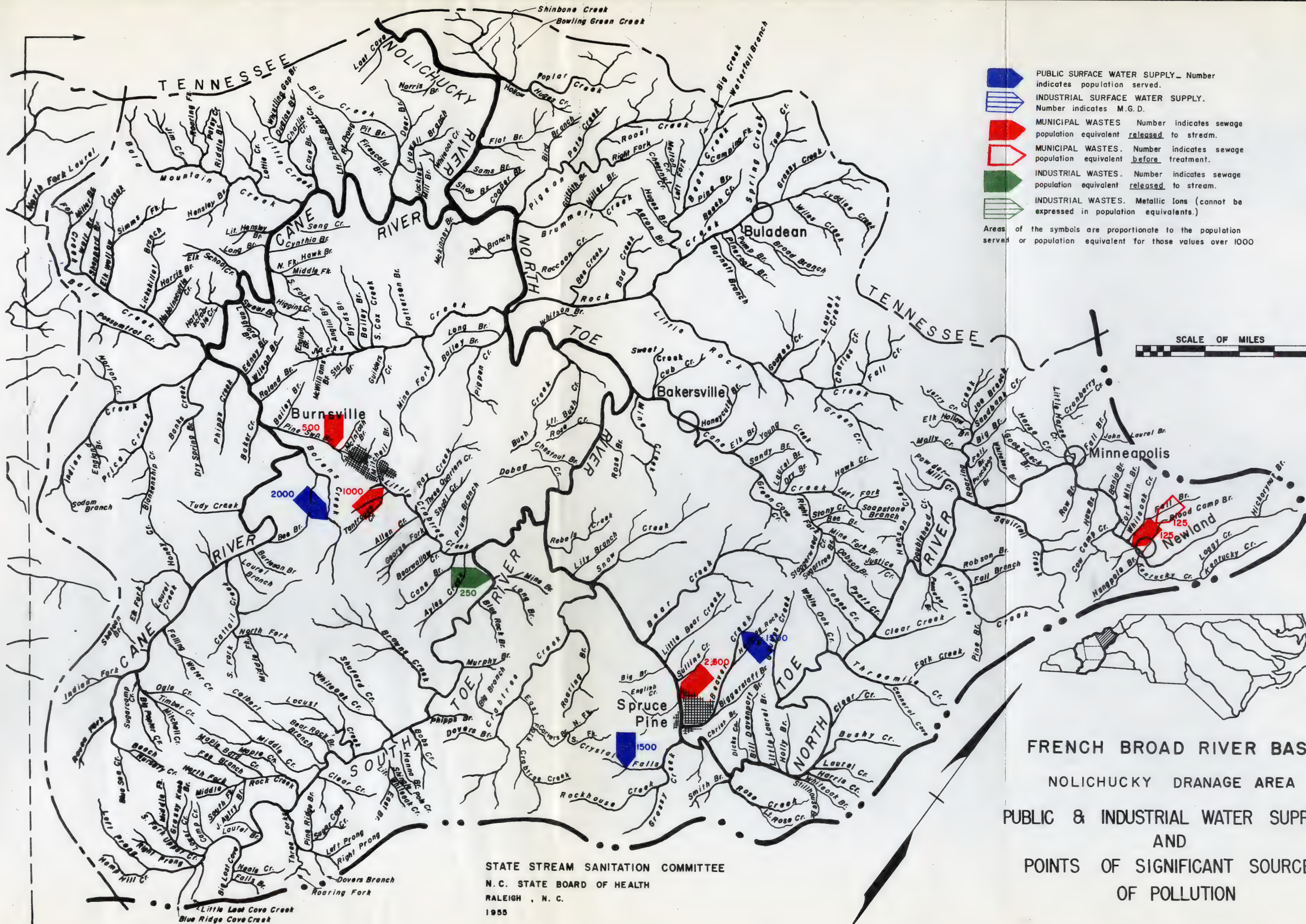
LOCATIONS OF SAMPLING POINTS AND GAGING STATIONS

NOLICHUCKY RIVER DRAINAGE AREA

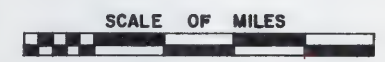
Sta. No.	Location	Stage Ref.	Miles from River Mouth or Mouth of Tributary	Drainage Area in Sq. Miles
65	North Toe River at Newland		68.1	
66	North Toe River near Newland	R.P.	66.4	9.2
67	North Toe River near Altapass		42.2	
	North Toe River at Altapass	R.	36.0	104
68	North Toe River at Spruce Pine		31.5	130
69	North Toe River near Penland		28.1	
70	Mitchell Branch at Burnsville	R.P.	0.1	0.8
71	Little Crabtree Creek at Burnsville		5.1	2.8
72	Little Crabtree Creek near Burnsville	R.P.	3.7	4.6
73	Pineswamp Branch at Burnsville	R.P.	0.9	1.6
74	North Toe River at Hunt Dale		0.5	
	Cane River near Sioux	R.	1.4	157
75	Cane River near Hunt Dale			
76	Nolichucky River near Poplar			

Stage Reference

R. - Recording Gage
R.P. - Reference Point



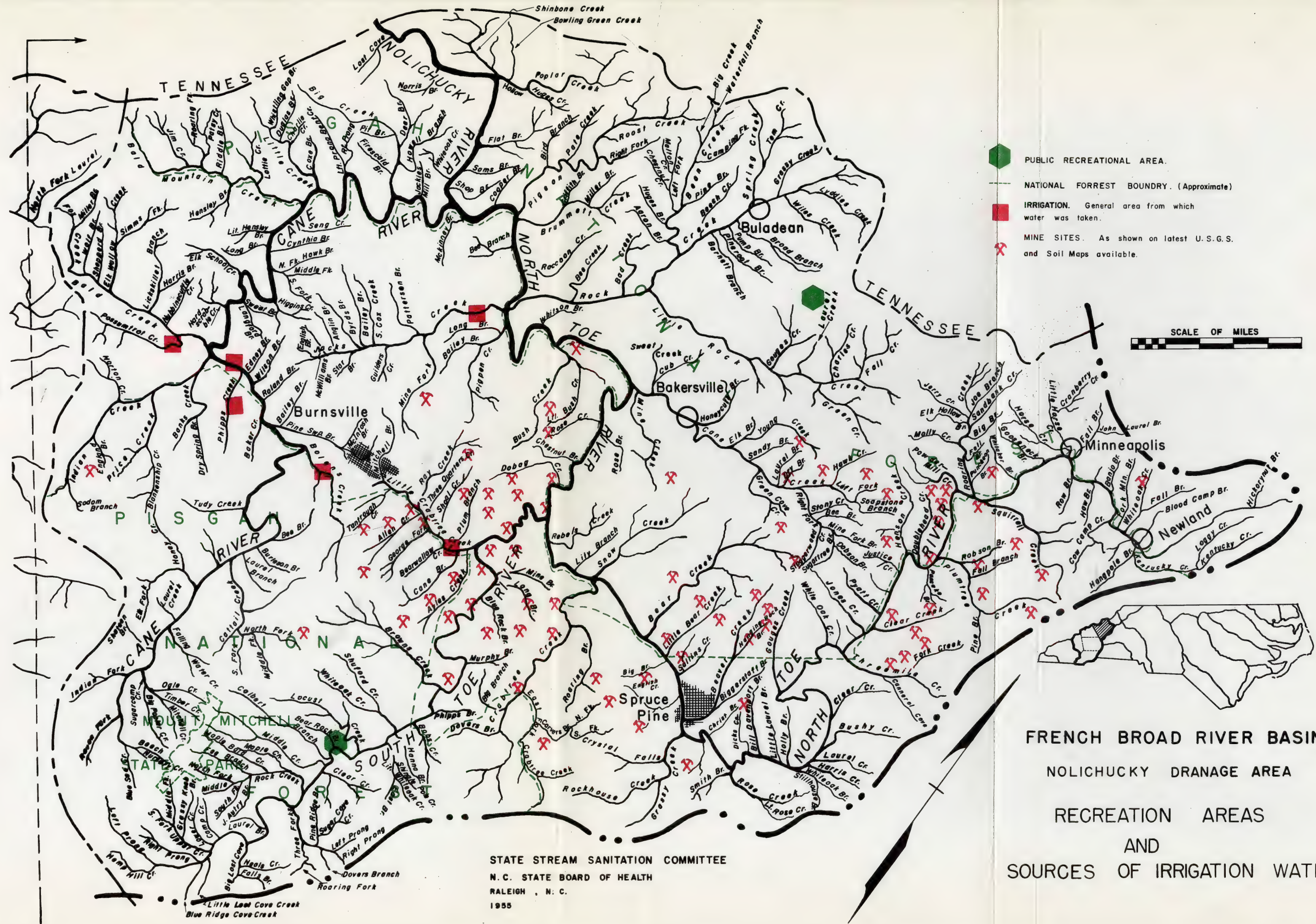
- PUBLIC SURFACE WATER SUPPLY- Number indicates population served.
 - INDUSTRIAL SURFACE WATER SUPPLY. Number indicates M.G.D.
 - MUNICIPAL WASTES. Number indicates sewage population equivalent released to stream.
 - MUNICIPAL WASTES. Number indicates sewage population equivalent before treatment.
 - INDUSTRIAL WASTES. Number indicates sewage population equivalent released to stream.
 - INDUSTRIAL WASTES. Metallic Ions (cannot be expressed in population equivalents.)
- Areas of the symbols are proportionate to the population served or population equivalent for those values over 1000



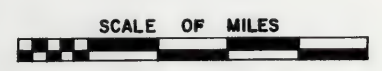
FRENCH BROAD RIVER BASIN
NOLICHUCKY DRAINAGE AREA
PUBLIC & INDUSTRIAL WATER SUPPLIES
AND
POINTS OF SIGNIFICANT SOURCES
OF POLLUTION

STATE STREAM SANITATION COMMITTEE
N.C. STATE BOARD OF HEALTH
RALEIGH, N.C.
1955





- PUBLIC RECREATIONAL AREA.
- NATIONAL FOREST BOUNDARY. (Approximate)
- IRRIGATION. General area from which water was taken.
- X MINE SITES. As shown on latest U.S.G.S. and Soil Maps available.



FRENCH BROAD RIVER BASIN
NOLICHUCKY DRAINAGE AREA
RECREATION AREAS
AND
SOURCES OF IRRIGATION WATER

STATE STREAM SANITATION COMMITTEE
N.C. STATE BOARD OF HEALTH
RALEIGH, N. C.
1955

TABLE 12
PUBLIC WATER SUPPLIES
NOLICHUCKY DRAINAGE AREA

Community	Pop. 1950	Est. Pop. Served	Daily Avg. M.G.D. Used	Owner- ship	Source of Supply	Water Treatment Facilities		
						Date In- stalled	Design Capacity M.G.D.	Treatment Processes
Bakersville	428	165		M	Well	1954	--	None
Burnsville	1,341	2,000	0.4	M	Bowlens Creek	1928	0.5	
Newland	425	450	0.06	M	Well	1947	0.2	None
Spruce Pine	2,280	3,000	0.5	M	Crystal Falls Creek	1924	1.35	Chlorination
					Beaver Creek	1937		Chlorination

TABLE 13

POINTS OF SIGNIFICANT POLLUTION
NOLICHUCKY RIVER DRAINAGE AREA

Source of Pollution	Pop. 1950 Census	Est. Pop. Served	Owner- ship	Kind of Waste	Est. Gals. Waste M.G.D.	Type of Treatment	P. E. before Treat- ment	P. E. after Treat- ment	Receiving Stream
Burnsville	1,341	1,500	M	D.S. I.W.	0.25	None	1,800		Little Crabtree Creek Pine Swamp Branch
Newland	425	125	M	D.S.	0.02	Primary	125	125	North Toe River
Robinson Dairy			P	I.W.	0.001	None	250		South Toe River
Spruce Pine	2,280	2,500	M	D.S.	0.5	None	2,500		North Toe River

TABLE 14

ANALYTICAL RESULTS

NOLICHUCKY RIVER DRAINAGE AREA

Collected		B.O.D.										Solids				
Date	Time	Temp °C	D. O. ppm	Dis. cfs	5 Day 20 °C	lbs./day at 25°C	Alkalinity Phenol. M.O.	pH	Cl ⁻	Hard- ness	Color True	Tur- bid- ity	Coliform M.P.N.	Dis- sol- ved ppm	Sus- pen- ded ppm	Total ppm
STATION NO. 65 - N. Toe 68.1																
8-23	0640	20	7.6	1.5	0.6	5.4	13	6.9	0	10	32	4	4,300	35	12	47
8-31	0615	14	8.1	1.2	0.6	4.9	15	6.7	1	11	35	4	430	42	13	55
9-16	0625	16	8.3	1.1	0.6	4.5	14	6.8	1	9	33	4	430	39	10	49
Avg.		17	8.0	1.3	0.6	4.9	14		1	10	33	4	1,700	38	12	50
Max.		20	8.3	1.5	0.6	5.4	15	6.9	1	11	35	4	4,300	42	13	55
Min.		14	7.6	1.1	0.6	4.5	13	6.7	0	9	32	4	430	35	10	47
STATION NO. 66 - N. Toe 66.4																
8-23	0640	20	7.2	2.9	0.8	15	18	7.1	1	13	25	7	9,300	52	16	68
8-31	0625	16	7.6	2.3	0.9	16	18	7.0	2	14	25	8	4,300	51	19	70
9-16	0645	15	8.1	2.3	0.4	6.2	18	6.8	1	14	23	5	4,300	43	10	53
Avg.		17	7.6	2.5	0.7	12	18		1	14	24	7	6,000	49	15	64
Max.		20	8.1	2.9	0.9	16	18	7.1	2	14	25	8	9,300	52	19	70
Min.		15	7.2	2.3	0.4	6.2	18	6.8	1	13	23	5	4,300	43	10	53
STATION NO. 67 - N. Toe 42.2																
8-23	0725	21	7.4	4.2	0.7	198	19	7.4	2	14	18	10	2,400	51	26	77
8-31	0705	18	7.9	3.4	0.9	207	16	6.5	1	14	18	30	9,300	49	51	100
9-16	0715	16	8.3	3.3	0.3	67	18	7.1	1	13	18	10	4,300	60	44	104
Avg.		18	7.9	3.6	0.6	157	18		1	14	18	15	5,300	53	40	93
Max.		21	8.3	4.2	0.9	207	19	7.4	2	14	18	30	9,300	60	51	104
Min.		16	7.4	3.3	0.3	67	16	6.1	1	13	18	10	2,400	49	26	77

TABLE 14
ANALYTICAL RESULTS

Collected		Temp °C	D. O. ppm %Sat.	Dis. cfs	B. O. D.		Alkalinity Phenol. M.O.	pH	Cl ⁻	Hard- ness	Color True	Tur- bid- ity	Coliform M.P.N.	Solids		
Date Time 1954	5 Day 20 °C at 25° C				lbs./day	Dis- sol- ved ppm								Sus- pen- ded ppm	Total ppm	
STATION NO. 68 - N. Toe 31.5																
8-23	0805	23	6.7	77	2.1	921	13	7.1	1	12	22	110	460,000	35	181	216
8-31	0750	18	7.2	75	2.7	784	15	6.9	1	14	27	300	240,000	23	332	355
9-16	0815	18	7.7	81	3.0	830	14	6.9	2	13	19	120	240,000	52	244	296
Avg.		19	7.2	78	2.6	845	14		1	12	23	180	314,000	37	252	289
Max.		23	7.7	81	3.0	921	15	7.1	2	14	27		460,000	52	332	355
Min.		18	6.7	75	2.1	784	13	6.9	1	13	19		240,000	23	181	216
STATION NO. 69 - N. Toe 28.1																
8-23	0825	23	7.3	84	1.4	690	10	6.8	2	11	27	220	46,000	45	338	383
8-31	0810	18	7.9	83	2.4	972	9	6.5	1	12	22	300	24,000	35	542	577
9-16	0835	18	8.0	84	1.5	616	9	6.3	2	12	13	160	9,300	16	528	544
Avg.		19	7.7	84	1.8	759	9		2	12	21	209	26,000	32	469	501
Max.		23	8.0	84	2.4	972	10	6.8	2	12	27	300	46,000	45	577	577
Min.		18	7.3	83	1.4	616	9	6.3	1	11	13	160	9,300	16		383
STATION NO. 70 - Mi. Br. 0.1																
8-3	0940	22	7.4	84	2.1	4.3	21	7.2	2	15	16	157,110,000		46	73	119
8-31	0920	18	7.2	75	>7.3*	>15*	32	6.9	7	24	30	602,400,000		131	100	231
9-13	1030	18	8.4	88	2.3	3.1	20	6.9	2	14	21	45	430,000	38	52	90
9-16	0950	18	7.6	80	2.4	3.3	22	7.2	3	13	23	35	430,000	70	59	129
Avg.		19	7.7	82	2.3	3.6	24		4	17	23	401,900,000		71	71	142
Max.		22	8.4	88	>7.3	>15	32	7.2	7	24	30	602,400,000		131	100	231
Min.		18	7.2	80	2.1	3.1	20	6.9	2	13	16	15	430,000	38	52	90

* Excluded from average.

TABLE 14

ANALYTICAL RESULTS

Collected Date Time 1954	Temp °C	B. O. D.		Dis. cfs	Alkalinity Phenol. M.O. at 25° C	pH	CL	Hard- ness	Color True	Tur- bid- ity	Coliform M.P.N.	Solids		
		D.O. ppm %Sat.	5 Day lbs./day 20. °C									Dis- sol- ved ppm	Sus- pen- ded ppm	
STATION NO. 71 - L. Cr. 5.1														
8-23	0910	20	2.5	27	2.2	31	457	19	26	60	2,400,000	106	73	179
8-31	0930	18	4.7	49	2.4	14	233	23	28	40	2,400,000	59	71	130
9-13	1015	18	4.0	42	1.6	32	341	20	32	50	3,300,000	97	46	143
9-16	1005	20	2.2	24	1.5	29	297	20	42	40	2,400,000	113	56	169
Avg.		19	3.4	36	1.9	27	332	21	32	50	2,900,000	94	62	156
Max.		20	4.7	49	2.4	32	457	23	42	60	3,300,000	113	73	179
Min.		18	2.2	24	1.5	14	233	19	26	40	2,400,000	59	46	130
STATION NO. 72 - L. Cr. 3.7														
8-23	0855	21	7.2	80	2.5	2.8	47	21	20	7	93,000	31	195	226
8-31	0845	18	7.7	81	2.7	0.9	16	23	26	50	43,000	60	114	174
9-13	1000	16	9.6	96	1.8	4.9	60	21	19	8	43,000	47	20	67
9-16	0920	17	8.8	91	1.7	1.8	21	22	22	10	93,000	61	51	112
Avg.		18	8.3	87	2.2	2.6	36	21	22	18	68,000	50	95	145
Max.		21	9.6	96	2.7	2.8	47	23	26	50	93,000	61	195	226
Min.		16	7.2	80	1.7	0.9	16	22	19	7	43,000	31	20	67
STATION NO. 73 - P. S. 0.9														
8-23	1005	21	5.9	66	1.0	4.7	32	23	30	7	1,100,000	106	21	127
8-31	0900	18	6.4	67	1.2	9.2	75	29	32	30	2,400,000	87	68	155
9-13	1045	20	9.2	100	0.6	12	48	22	36	30	230,000	69	27	96
9-16	0935	18	8.0	84	0.6	7	28	22	40	15	930,000	90	41	131
Avg.		19	7.4	79	0.9	8.2	46	24	35	20	1,200,000	88	39	127
Max.		20	9.2	100	1.2	12	75	29	40	30	2,400,000	106	68	155
Min.		18	5.9	66	0.6	4.7	32	22	30	7	230,000	69	21	96

TABLE 14
ANALYTICAL RESULTS

Collection		Temp °C	D. O.		Dis. cfs	B. O. D.		Alkalinity Phenol. M.O.	pH	Cl ⁻	Hard- ness	Color True	Tur- bidity	Coliform M.P.N.	Solids	
Date	Time		ppm	%Sat.		5 Day 20 °C	lbs./day at 25° C								sol- ved ppm	Sus- pen- ded ppm
STATION NO. 74 ~ N. Toe 0.5																
8-23	1115	25	7.6	91	215	1.0	1,450	13	7.0	2	11	18	630	24,000	65	700
8-31	1035	22	8.1	92	362	0.9	2,200	12	7.0	1	12	24	380	9,300	66	404
9-16	1100	22	8.3	94	121	0.5	408	12	6.8	1	14	32	480	4,300	103	400
avg.		23	8.0	92	233	0.8	1,353	12		1	12	25	500	13,000	78	501
Max.		25	8.3	94	362	1.0	2,200	13	7.0	2	14	32	630	24,000	103	700
Min.		22	7.6	91	121	0.5	408	12	6.8	1	11	18	380	4,300	65	400
STATION NO. 75																
8-23	1125	24	7.9	93	102	1.1	757	20	7.4	1	16	20	40	46,000	61	52
8-31	1045	22	8.1	92	56	1.0	378	18	7.2	1	14	22	65	9,300	51	62
9-16	1115	21	8.8	98	37	0.6	150	22	7.4	0	15	18	10	2,300	57	8
avg.		22	8.3	94	65	0.9	428	20			15	20	40	19,000	56	41
Max.		24	8.8	98	102	1.1	757	22	7.4	1	16	22	65	46,000	61	62
Min.		21	7.9	92	37	0.6	150	18	7.2	0	14	18	10	2,300	51	8
STATION NO. 76																
8-23	1100	26	7.7	94	320	2.4	5,180	13	6.9	3	12	20	550	9,300	72	556
8-31	1145	22	8.0	91	425	1.1	3,160	13	6.9	2	12	20	320	4,300	9	356
9-16	1045	22	8.5	96	100	0.7	473	13	7.0	1	13	32	240	4,300	74	245
avg.		23	8.1	94	282	1.4	2,940	13		2	12	24	370	6,000	52	386
Max.		26	8.5	96	320	2.4	5,180	13	7.0	3	13	32	550	9,300	74	556
Min.		22	7.7	91	100	0.7	473	13	6.9	1	12	20	240	4,300	9	245

EXPLANATION OF TABLE 15, RECOMMENDED CLASSIFICATIONS

The tentatively recommended classifications of the surface waters in the Nolichucky River Drainage Area, French Broad River Basin, are given in Table 15, pages 210 - 227. These recommendations are considered to represent the best usages of the streams in the interest of the public, and are submitted to all concerned for consideration at the Public Hearing, and the State Stream Sanitation Committee in its determination of the final classifications to be assigned.

Any stream not named in Table 15 carries the same classification as the segment of the stream to which it is tributary.

Key to Abbreviations Used in Table

Agri.	Agriculture
FWP	Fish & Wildlife Propagation
N	Natural
NF	National Forest
P	Polluted
Rec.	Recreation
Res.	Residential
W	Woodland
WF	Woodland & Farm Land
WS	Water Supply

Brief Explanation of Water Classifications

- A-I Water supply from uninhabited watersheds requiring only approved disinfection.
- A-II Water supply with approved complete treatment.
- B Bathing and recreation.
- C Fishing.
- D Agricultural, including irrigation and livestock watering and industrial cooling and process water supply.
- E Navigation and the disposal of sewage, industrial wastes or other wastes.

TABLE 15
RECOMMENDED CLASSIFICATIONS
NOLICHUCKY DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
I. Nolichucky River from source to mouth,	WF	B	Agri.	Agri.	D	
A. North Toe River from source to Plum tree.	WF	B.	Fishing	Fishing	C	Treated sewage from Newland; Designated trout waters
1. Kentucky Branch	WF	N	Fishing	Fishing	C	
2. Kentucky Creek	WF	N	Fishing	Fishing	C	
a. Loggy Creek	WF	N	Fishing	Fishing	C	
3. Handpole Branch	WF	N	Fishing	Fishing	C	
4. Whiteoak Creek	WF	N	Fishing	Fishing	C	
a. Left Prong	WF	N	Fishing	Fishing	C	
b. Fall Branch	WF	N	Fishing	Fishing	C	
5. Fork Mountain Branch	WF	N	Fishing	Fishing	C	
6. Cow Camp Creek	WF	N	Fishing	Fishing	C	
7. Banjo Branch	WF	N	Fishing	Fishing	C	
8. Haw Branch	WF	N	Fishing	Fishing	C	
9. Row Branch	WF	N	Fishing	Fishing	C	
10. Horse Creek	WF	N	Fishing	Fishing	C	Designated trout waters
a. Camp Branch	WF	N	Fishing	Fishing	C	
b. Big Branch	WF	N	Fishing	Fishing	C	

TABLE 15

RECOMMENDED CLASSIFICATIONS
NOLICHUCKY DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
c. Little Horse Creek	WF	N	Fishing	Fishing	C	
11. Gooseneck Branch	WF	N	Fishing	Fishing	C	
12. Birchfield Creek	WF	N	Fishing	Fishing	C	Designated trout waters
13. Squirrel Creek	WF	N	Fishing	Fishing	C	Designated trout waters
14. Roaring Creek	WF	N	Fishing	Fishing	C	Designated trout waters
a. Joe Branch	WF	N	Fishing	Fishing	C	
b. Elk Hollow Branch	WF	N	Fishing	Fishing	C	Designated trout waters
c. Sandbank Creek	WF	N	Fishing	Fishing	C	
d. Big Branch	WF	N	Fishing	Fishing	C	
e. Jerries Creek	WF	N	Fishing	Fishing	C	Designated trout waters
f. Mollie Creek	WF	N	Fishing	Fishing	C	
g. Fah Branch	WF	N	Fishing	Fishing	C	
h. Punccheon Camp Branch	WF	N	Fishing	Fishing	C	
15. Powdermill Creek	WF	N	Fishing	Fishing	C	
16. Plumtree Creek	WF	N	Fishing	Fishing	C	Designated trout waters
a. Little Plumtree Ck.	WF	N	Fishing	Fishing	C	
b. Pine Branch	WF	N	Fishing	Fishing	C	
c. Fall Branch	WF	N	Fishing	Fishing	C	
d. Robson Branch	WF	N	Fishing	Fishing	C	

TABLE 15
RECOMMENDED CLASSIFICATIONS
NOLICHUCKY DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief		Best Usage	Propo- sed Class	Remarks
			P.	Usage			
B. North Toe River from Plumtree to mouth	WF		P.	Agri.	Agri.	D	Highly turbid due to mining
1. Pancake Branch	WF	N		Agri.	Agri.	D	
2. Doublehead Creek	WF	N		Agri.	Agri.	D	
3. Henson Creek	WF	N		Agri.	Agri.	D	
4. Justice Creek	WF	N		Agri.	Agri.	D	
5. Clear Creek	WF	N		Agri.	Agri.	D	
6. Jones Creek	WF	N		Fishing	Fishing	C	Protected trout stream
7. Threemile Creek	WF	N		Agri.	Agri.	D	
a. Fork Creek	WF	N		Agri.	Agri.	D	
8. White Oak Creek	WF	N		Agri.	Agri.	D	
9. Gouges Creek	WF	N		Agri.	Agri.	D	
10. Clear Creek	WF	N		Agri.	Agri.	D	
11. Brushy Creek	WF	N		Agri.	Agri.	D	
12. Laurel Creek	WF	N		Agri.	Agri.	D	
13. Harris Creek	WF	N		Agri.	Agri.	D	
14. White Oak Branch	WF	N		Agri.	Agri.	D	
a. Stillhouse Branch	WF	N		Agri.	Agri.	D	
15. Holley Branch	WF	N		Agri.	Agri.	D	

TABLE 15
RECOMMENDED CLASSIFICATIONS
NOLICHUCKY DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
16. Little Laurel Branch	WF	N	Agri.	Agri.	D	
17. Bill Davenport Branch	WF	N	Agri.	Agri.	D	
18. Dicks Creek	WF	N	Agri.	Agri.	D	
a. Middle Ridge Branch	WF	N	Agri.	Agri.	D	
19. Rose Creek	WF	N	Agri.	Agri.	D	
a. Little Rose Creek	WF	N	Agri.	Agri.	D	
b. Smith Branch	WF	N	Agri.	Agri.	D	
20. Christ Branch	WF	N	Agri.	Agri.	D	
21. Grassy Creek	WF	N	Fishing	Fishing	C	Designated trout waters
a. Rockhouse Creek	WF	N	Agri.	Agri.	D	
b. Crystal Falls Creek above water supply Crystal Falls Creek below water supply	W WF	N N	WS Agri.	WS Agri.	A-I D	Spruce Pine water supply
22. Beaver Creek above water supply	W	N	WS	WS	A-I	Spruce Pine water supply
Beaver Creek below water supply	WF	N	Agri.	Agri.	D	
a. Hanging Rock Branch	WF	N	Agri.	Agri.	D	
b. Biggerstaff Branch	WF	N	Agri.	Agri.	D	
23. English Creek	WF	N	Agri.	Agri.	D	

TABLE 15
RECOMMENDED CLASSIFICATIONS
NOLICHUCKY DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
24. Gullins Creek	WF	N	Agri.	Agri.	D	
25. Big Branch	WF	N	Agri.	Agri.	D	
26. Little Bear Creek	WF	N	Agri.	Agri.	D	
27. Bear Creek	WF	N	Fishing	Fishing	C	Designated trout waters
28. Snow Creek	WF	N	Agri.	Agri.	D	
29. Crabtree Creek	WF	N	Fishing	Fishing	C	Designated trout waters
a. Roaring Branch	WF	N	Agri.	Fishing	C	
b. Brushy Creek	WF	N	Agri.	Fishing	C	
30. Lilly Branch	WF	N	Agri.	Agri.	D	
31. Rebels Creek	WF	N	Agri.	Agri.	D	
32. South Toe River from source to Colbert Creek	WF	N	Fishing	Fishing	C	Protected trout waters
a. Hemphill Creek	WF	N	Fishing	Fishing	C	
b. Left Prong South Toe River	WF	N	Fishing	Fishing	C	
c. Blue Ridge Cove Creek	WF	N	Agri.	Fishing	C	
d. Little Lost Cove Cr.	WF	N	Agri.	Fishing	C	
e. South Fork Upper Cr.	WF	N	Fishing	Fishing	C	

TABLE 15

RECOMMENDED CLASSIFICATIONS

NOLICHUCKY DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
(1) Middle Fork	WF	N	Agri.	Fishing	C	
(2) Grassy Knob Branch	WF	N	Agri.	Fishing	C	
f. Lower Creek	WF	N	Fishing	Fishing	C	
g. Camp Creek	WF	N	Fishing	Fishing	C	
h. Whiteside Branch	WF	N	Agri.	Fishing	C	
i. Setrock Creek	WF	N	Agri.	Fishing	C	
j. Little Mountain Cr.	WF	N	Agri.	Fishing	C	
k. Devils Den	WF	N	Agri.	Fishing	C	
l. Big Lost Cove Creek	WF	N	Fishing	Fishing	C	
(1) Fall Branch	WF	N	Agri.	Fishing	C	
(2) Neals Creek	WF	N	Fishing	Fishing	C	
m. Laurel Branch	WF	N	Agri.	Fishing	C	
n. Three Forks Creek	WF	N	Agri.	Fishing	C	
(1) Left Prong	WF	N	Agri.	Fishing	C	
(2) Right Prong	WF	N	Agri.	Fishing	C	
(3) Burgin Cove Br.	WF	N	Agri.	Fishing	C	
(4) Sugar Cove Creek	WF	N	Agri.	Fishing	C	
(a) Pine Ridge Br.	WF	N	Agri.	Fishing	C	

TABLE 15

RECOMMENDED CLASSIFICATIONS
NOLICHUCKY DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Pro- posed Class	Remarks
(5) Dovers Branch	WF	N	Agri.	Fishing	C	
(6) Roaring Fork	WF	N	Agri.	Fishing	C	
(a) Still Branch	WF	N	Agri.	Fishing	C	
o. Rock Creek	WF	N	Fishing	Fishing	C	
(1) South Fork	W	N	Fishing	Fishing	C	
(2) Middle Fork	W	N	Fishing	Fishing	C	
(3) North Fork	W	N	Fishing	Fishing	C	
(4) Fee Branch	W	N	Fishing	Fishing	C	
(5) John Autry Branch	W	N	Fishing	Fishing	C	
(6) Maple Bald Creek	W	N	Fishing	Fishing	C	
(7) Clear Creek	WF	N	Fishing	Fishing	C	Designated trout waters.
(8) Middle Creek	WF	N	Fishing	Fishing	C	
33. South Toe River from Colbert Creek to Browns Creek.	WF	N	Bathing	Bathing	B	Carolina Hemlock Camp.
a. Colbert Creek	WF	N	Fishing	Fishing	C	Designated trout waters.
b. Bear Rock Branch	WF	N	Agri.	Bathing	B	
c. Locust Creek	WF	N	Agri.	Bathing	B	
d. Little Whiteoak Cr.	WF	N	Agri.	Bathing	B	

TABLE 15

RECOMMENDED CLASSIFICATIONS
NOLICHUCKY DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
(1) Shingle Pole Creek	WF	N	Agri.	Bathing	B	
(2) East Branch	WF	N	Agri.	Bathing	B	
e. Hannah Branch	WF	N	Agri.	Bathing	B	
f. Whiteoak Creek	WF	N	Fishing	Bathing	B	Designated trout waters.
(1) Shuford Creek	WF	N	Agri.	Bathing	B	
g. Bobs Creek	WF	N	Agri.	Bathing	B	
h. Phipps Branch	WF	N	Agri.	Bathing	B	
34. South Toe River from Browns Creek to mouth.	WF	N	Agri.	Agri.	D	Highly turbid due to mining.
a. Browns Creek	WF	N	Agri.	Agri.	D	
b. Murphy Branch	WF	N	Agri.	Agri.	D	
c. Blue Rock Branch	WF	N	Agri.	Agri.	D	
d. Long Branch	WF	N	Agri.	Agri.	D	
e. Mine Branch	WF	N	Agri.	Agri.	D	
f. Little Crabtree Cr.	WF	P	Agri.	Agri.	D	Untreated sewage from Burnsville.
(1) Mitchell Branch	Res.	P	Agri.	Agri.	D	Waste from Burnsville Hosiery Mill.
(2) Tantrogh Branch	WF	N	Agri.	Agri.	D	
(3) Ray Creek	WF	N	Agri.	Agri.	D	
(4) Allen Branch	WF	N	Agri.	Agri.	D	

TABLE 15
RECOMMENDED CLASSIFICATIONS
NOLICHUCKY DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
(5) Three Quarters Creek	WF	N	Agri.	Agri.	D	
(6) George Fork	WF	N	Agri.	Agri.	D	
(7) Shoal Creek	WF	N	Agri.	Agri.	D	
(8) Bearwallow Creek	WF	N	Agri.	Agri.	D	
(9) Plum Branch	WF	N	Agri.	Agri.	D	
(10) Cane Branch	WF	N	Agri.	Agri.	D	
(11) Ayles Creek	WF	P	Agri.	Agri.	D	Sewage from Micaville School.
35. Dobag Creek	WF	N	Agri.	Agri.	D	
36. Chestnut Branch	WF	N	Agri.	Agri.	D	
37. Rose Branch	WF	N	Agri.	Agri.	D	
38. Rose Creek	WF	N	Agri.	Agri.	D	
39. Cane Creek	WF	P	Fishing	Fishing	C	Designated trout waters.
a. Elk Branch	WF	N	Agri.	Agri.	D	
b. Honeycut Branch	WF	N	Agri.	Agri.	D	
c. Oub Creek	WF	N	Agri.	Agri.	D	
(1) Sweet Creek	WF	N	Agri.	Agri.	D	
d. Mine Creek	WF	N	Agri.	Agri.	D	
40. Bush Creek	WF	N	Agri.	Agri.	D	
a. Little Bush Creek	WF	N	Agri.	Agri.	D	
41. Whitson Branch	WF	N	Agri.	Agri.	D	

TABLE 15
RECOMMENDED CLASSIFICATIONS
NOLICHUCKY DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
42. Pigpen Creek	WF	N	Agri.	Agri.	D	
a. Bailey Branch	WF	N	Agri.	Agri.	D	
b. Long Branch	WF	N	Agri.	Agri.	D	
43. Jacks Creek	WF	P	Agri.	Agri.	D	Raw sewage from Clearmont High School.
a. English Branch	WF	N	Agri.	Agri.	D	
b. McWilliams Branch	WF	N	Agri.	Agri.	D	
c. Anglin Branch	WF	N	Agri.	Agri.	D	
d. Star Branch	WF	N	Agri.	Agri.	D	
e. Byrds Branch	WF	N	Agri.	Agri.	D	
f. Bailey Branch	WF	N	Agri.	Agri.	D	
g. South Cox Creek	WF	N	Agri.	Agri.	D	
h. Guilders Creek	WF	N	Agri.	Agri.	D	
i. Moses Branch	WF	N	Agri.	Agri.	D	
j. Patterson Branch	WF	N	Agri.	Agri.	D	
k. Mine Fork	WF	N	Agri.	Agri.	D	
(1) Hampton Branch	WF	N	Agri.	Agri.	D	
l. Sampson Branch	WF	N	Agri.	Agri.	D	
(1) Sweetwater Branch	WF	N	Agri.	Agri.	D	
m. Peterson Branch	WF	N	Agri.	Agri.	D	

TABLE 15
RECOMMENDED CLASSIFICATIONS
NOLICHUCKY DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
(1) Parson Branch	WF	N	Agri.	Agri.	D	
n. Whitson Branch	WF	N	Agri.	Agri.	D	
44. Big Rock Creek	WF	N	Fishing	Fishing	C	Designated trout waters.
a. Lyddies Creek	WF	N	Agri.	Agri.	D	
b. Willes Creek	WF	N	Agri.	Agri.	D	
c. Greasy Creek	WF	N	Agri.	Agri.	D	
d. Spring Creek	WF	N	Agri.	Agri.	D	
e. Blevins Branch	WF	N	Agri.	Agri.	D	
f. Broad Branch	WF	N	Agri.	Agri.	D	
g. Pump Branch	WF	N	Agri.	Agri.	D	
h. Pineroor Branch	WF	N	Agri.	Agri.	D	
i. Barnett Branch	WF	N	Agri.	Agri.	D	
j. Beech Creek	WF	N	Agri.	Agri.	D	
k. Bean Creek	WF	N	Agri.	Fishing	C	
(1) Right Fork	WF	N	Agri.	Agri.	D	
(a) Waterfall Br.	WF	N	Agri.	Agri.	D	
(b) Big Branch	WF	N	Agri.	Agri.	D	
(c) Camping Fork	WF	N	Agri.	Agri.	D	
(d) Pine Branch	WF	N	Agri.	Agri.	D	
(2) Left Fork	WF	N	Agri.	Agri.	D	

TABLE 15

RECOMMENDED CLASSIFICATIONS
NOLICHUCKY DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
(a) Molton Branch	WF	N	Agri.	Agri.	D	
(b) Chestnut Branch	WF	N	Agri.	Agri.	D	
(3) Hughes Branch	WF	N	Agri.	Agri.	D	
(4) Aaron Branch	WF	N	Agri.	Agri.	D	
1. Little Rock Creek	WF	N	Fishing	Fishing	C	Designated trout waters.
(1) Gouges Creek	WF	N	Agri.	Agri.	D	
(2) Cook Branch	WF	N	Agri.	Agri.	D	
(3) Hobson Creek	WF	N	Agri.	Agri.	D	
(4) Edwards Branch	WF	N	Agri.	Agri.	D	
(5) Piney Branch	WF	N	Agri.	Agri.	D	
(6) Gutches Creek	WF	N	Agri.	Agri.	D	
m. Bad Creek	WF	N	Agri.	Agri.	D	
n. Bee Creek	WF	N	Agri.	Agri.	D	
45. Raccoon Creek	WF	N	Agri.	Agri.	D	
46. Warrlick Branch	WF	N	Agri.	Agri.	D	
47. Bee Branch	WF	N	Agri.	Agri.	D	
48. Brummett Creek	WF	N	Agri.	Agri.	D	
a. Miller Branch	WF	N	Agri.	Agri.	D	
b. Griffin Branch	WF	N	Agri.	Agri.	D	
49. Pigeonroost Creek	WF	N	Fishing	Fishing	C	Designated trout waters.

TABLE 15
RECOMMENDED CLASSIFICATIONS
NOLICHUCKY DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Use	Best Usage	Proposed Class	Remarks
a. Bearwallow Creek	W	N	Fishing	Fishing	C	
b. Right Fork	W	N	Fishing	Fishing	C	
(1) Leathermans Fork	W	N	Fishing	Fishing	C	
c. Pate Creek	WF	N	Agri.	Agri.	D	
d. Bird Creek	WF	N	Agri.	Agri.	D	
50. Cooper Branch	WF	N	Agri.	Agri.	D	
51. McKinney Branch	WF	N	Agri.	Agri.	D	
C. Cane River from source to Power Dam.	WF	N	Fishing	Fishing	C	Designated trout waters.
1. Beech Nursery Creek	W	N	Fishing	Fishing	C	
a. Blue Sea Creek	W	N	Fishing	Fishing	C	
2. Raven Fork	W	N	Fishing	Fishing	C	
3. Indian Fork	W	N	Fishing	Fishing	C	
4. Sugar Camp Creek	W	N	Fishing	Fishing	C	
a. Ogle Creek	W	N	Fishing	Fishing	C	
b. Timber Creek	W	N	Fishing	Fishing	C	
(1) Mitchell Creek	W	N	Fishing	Fishing	C	
c. Big Poplar Creek	W	N	Fishing	Fishing	C	
5. Shateen Branch	W	N	Fishing	Fishing	C	
6. Falling Water Branch	W	N	Fishing	Fishing	C	
7. Laurel Branch	W	N	Fishing	Fishing	C	

TABLE 15
RECOMMENDED CLASSIFICATIONS
NOLICHUCKY DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
8. Hancy Creek	WF	N	Agri.	Agri.	D	
a. Elk Fork	WF	N	Agri.	Agri.	D	
9. Cattail Creek	WF	N	Agri.	Agri.	D	
a. South Fork	WF	N	Agri.	Agri.	D	
b. North Fork	WF	N	Agri.	Agri.	D	
10. Laurel Creek	WF	N	Agri.	Agri.	D	
11. Burleson Branch	WF	N	Agri.	Agri.	D	
12. Bee Branch	WF	N	Agri.	Agri.	D	
13. Trudy Creek	WF	N	Agri.	Agri.	D	
14. Bowlen's Creek above water supply dam.	W	N	WS	WS	A-I	
Bowlen's Creek below water supply dam.	WF	N	Fishing	Fishing	C	Designated trout waters.
D. Cane River from Power Dam to mouth.	WF	N	Fishing	Fishing	C	4 ppm
1. Pine Swamp Branch	WF	P	Agri.	Agri.	D	Untreated waste from Burnsville.
a. McIntosh Branch	Res.	N	Agri.	Agri.	D	
b. Bailey Branch	WF	N	Agri.	Agri.	D	
2. Baker Creek	WF	N	Agri.	Agri.	D	
3. Roland Branch	WF	N	Agri.	Agri.	D	
4. Wilson Branch	WF	N	Agri.	Agri.	D	
5. Idney Branch	WF	N	Agri.	Agri.	D	

TABLE 15
RECOMMENDED CLASSIFICATIONS
NOLICHUCKY DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
6. Phipps Creek	WF	N	Agri.	Agri.	D	
7. Price Creek	WF	N	Agri.	Agri.	D	
a. Manuel Branch	WF	N	Agri.	Agri.	D	
b. Blankenship Creek	WF	N	Agri.	Agri.	D	
c. Indian Creek	WF	N	Agri.	Agri.	D	
(1) Sodom Branch	WF	N	Agri.	Agri.	D	
(2) England Branch	WF	N	Agri.	Agri.	D	
(3) Horton Creek	WF	N	Agri.	Agri.	D	
d. Banks Creek	WF	N	Agri.	Agri.	D	
8. Bald Creek	WF	P	Agri.	Agri.	D	Raw sewage from Bald Creek School.
a. Fox Creek	WF	N	Agri.	Agri.	D	
(1) Miller Branch	WF	N	Agri.	Agri.	D	
b. Wolf Branch	WF	N	Agri.	Agri.	D	
c. Shepherd Branch	WF	N	Agri.	Agri.	D	
d. Elk Wallow Creek	WF	N	Agri.	Agri.	D	
(1) Simms Fork	WF	N	Agri.	Agri.	D	
e. Licksillet Branch	WF	N	Agri.	Agri.	D	
(1) Harris Branch	WF	N	Agri.	Agri.	D	
f. Nubbinscuffle Creek	WF	N	Agri.	Agri.	D	
g. Possumtrot Creek	WF	N	Agri.	Agri.	D	
9. Hardscrabble Branch	WF	N	Agri.	Agri.	D	

TABLE 15

RECOMMENDED CLASSIFICATIONS
NOLICHUCKY DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
10. Langford Branch	WF	N	Agri.	Agri.	D	
a. Sweet Branch	WF	N	Agri.	Agri.	D	
11. Elk Shoal Creek	WF	N	Agri.	Agri.	D	
12. Higgins Creek	WF	N	Agri.	Agri.	D	
13. Hawk Branch	WF	N	Agri.	Agri.	D	
a. North Fork	WF	N	Agri.	Agri.	D	
b. Middle Fork	WF	N	Agri.	Agri.	D	
c. South Fork	WF	N	Agri.	Agri.	D	
14. Cynthia Branch	WF	N	Agri.	Agri.	D	
15. Long Branch	WF	N	Agri.	Agri.	D	
16. Little Hensley Branch	WF	N	Agri.	Agri.	D	
17. Seng Branch	WF	N	Agri.	Agri.	D	
18. Bald Mountain Creek	WF	N	Fishing	Fishing	C	Designated trout waters.
a. Jim Creek	WF	N	Agri.	Agri.	D	
b. Patsy Creek	WF	N	Agri.	Agri.	D	
(1) Patsy Creek	WF	N	Agri.	Agri.	D	
c. Riddle Branch	WF	N	Agri.	Agri.	D	
d. Hensley Branch	WF	N	Agri.	Agri.	D	
e. Lottie Creek	WF	N	Agri.	Agri.	D	
19. Little Creek	WF	N	Fishing	Fishing	C	Designated trout waters.
a. Whistling Gap Branch	WF	N	Agri.	Agri.	D	

TABLE 15
RECOMMENDED CLASSIFICATIONS
NOLICHUCKY DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
b. Douglas Branch	WF	N	Agri.	Agri.	D	
c. Charlie Creek	WF	N	Agri.	Agri.	D	
d. Coxe Branch	WF	N	Agri.	Agri.	D	
20. Medrith Branch	WF	N	Agri.	Agri.	D	
21. Feds Branch	WF	N	Agri.	Agri.	D	
22. Bloody Fork	WF	N	Agri.	Agri.	D	
23. Bent Creek	WF	N	Agri.	Agri.	D	
a. Left Prong	WF	N	Agri.	Agri.	D	
b. Right Prong	WF	N	Agri.	Agri.	D	
24. North Coxe Creek	WF	N	Agri.	Agri.	D	
25. Pounding Mill Branch	WF	N	Agri.	Agri.	D	
26. Big Creek	WF	N	Agri.	Agri.	D	
a. Deer Branch	W	N	Agri.	Agri.	D	
b. Pit Branch	W	N	Agri.	Agri.	D	
c. Howell Branch	WF	N	Agri.	Agri.	D	
d. Firescald Branch	WF	N	Agri.	Agri.	D	
27. Jackies Mill Branch	WF	N	Agri.	Agri.	D	
E. Allen Branch	WF	N	Agri.	Agri.	D	
F. Shop Branch	WF	N	Agri.	Agri.	D	
G. Whiteoak Creek	WF	N	Agri.	Agri.	D	
H. Sams Branch	WF	N	Agri.	Agri.	D	

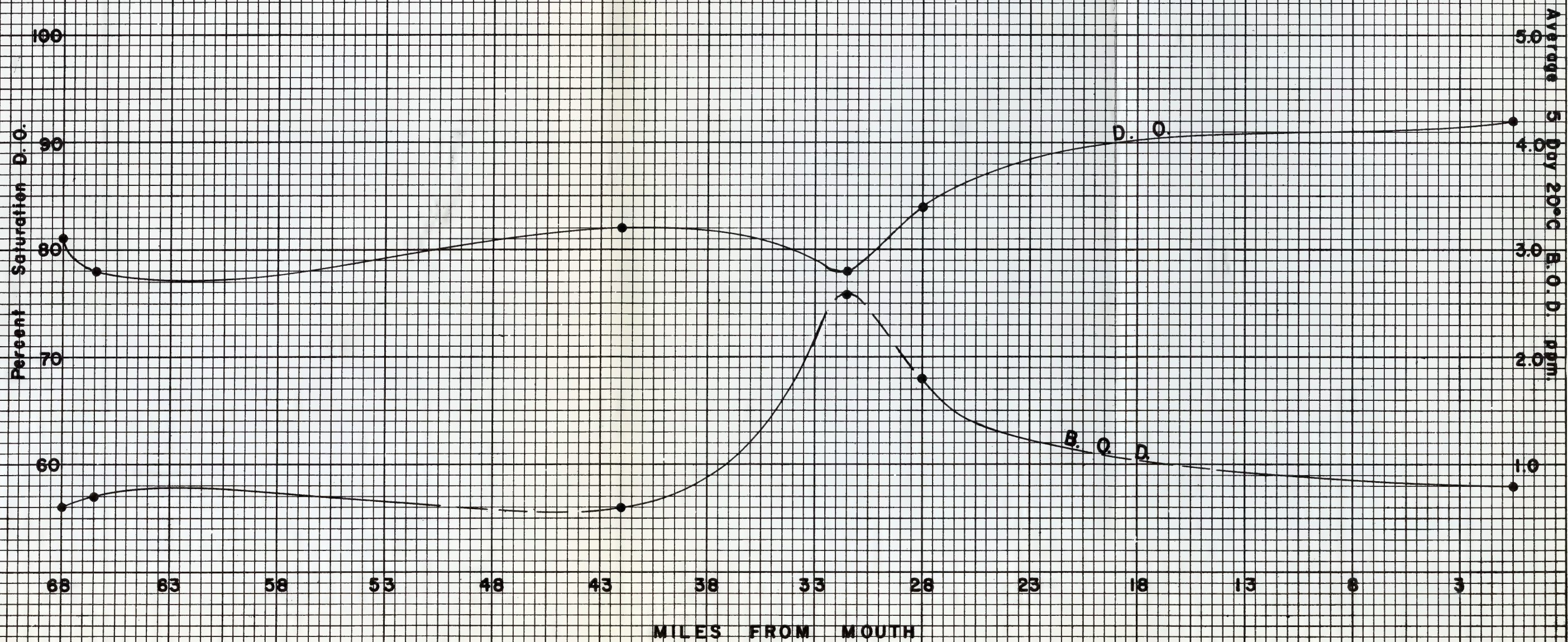
TABLE 15

RECOMMENDED CLASSIFICATIONS
NOLICHUCKY DRAINAGE AREA

Stream	Character of District	Condition of Water	Chief Present Usage	Best Usage	Proposed Class	Remarks
I. Flat Branch	WF	N	Agri.	Agri.	D	
J. Hollow Poplar Creek	WF	N	Agri.	Agri.	D	
1. Bowling Green Creek	WF	N	Agri.	Agri.	D	
2. Shinbone Creek	WF	N	Agri.	Agri.	D	
K. Norris Branch	WF	N	Agri.	Agri.	D	

DISSOLVED OXYGEN PROFILE

NORTH TOE RIVER



COLIFORM DENSITY
NORTH TOE RIVER

